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Supreme Court of the United States

OCTOBER TERM, 1957

No. 34

WILLIAM J. KERNAN, ADMINISTRATOR OF
THE ESTATE OF ARTHUR E. MILAN,
DECEASED, ET AL., PETITIONERS,

vs,

AMERICAN DREDGING COMPANY, ETC.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS
FOR THE THIRD CIRCUIT

PETITION FOR CERTIORARI FILED NOVEMBER 8, 1956
CERTIORARI GRANTED JANUARY 14, 1957

SUPREME COURT OF THE UNITED STATES

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[fol. 1] **IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA**

In the Matter of the Petition of AMERICAN DREDGING COMPANY, as Owner of the Tug "Arthur N. Herron", for Exoneration from or Limitation of Liability

William J. Kernan, Administrator of the Estate of Arthur E. Milan, and John J. Meehan, Administrator of the Estate of Donald H. Worrell, Appellants.

DOCKET ENTRIES

No. 137 OF 1953 IN ADMIRALTY

Date

1953

1. May 11 Petition for Exoneration From or Limitation of Liability filed.
2. " 12 Affidavit of Value filed.
- " 15 Petitioner's Bond in \$26,000.00 with the Travelers Indemnity Company as Surety filed.
- " 15 Libellant's Bond for Costs in \$250.00 with Travelers Indemnity Company as Surety filed.
3. " 15 Order of Court Directing that a Monition Issue, Granting Restraining Order, Etc. filed.
- " 15 Monition Exit—Returnable July 30, 1953.
4. July 29 Claim of Elizabeth M. Worrell, et al. filed.
5. " 29 Answer of Elizabeth M. Worrell, Widow of Donald Worrell, Deceased, and Elizabeth M. Worrell, an Infant, and June P. Worrell, an Infant, by their natural guardian, Elizabeth M. Worrell, their Mother, filed.

Date

1953

6. July 29 Claim of William J. Kernan, Administrator of the Estate of Arthur E. Milan, Deceased, filed.
7. " 29 Answer of William J. Kernan, Administrator of the Estate, Etc., filed.
8. " 30 Claim of Francis J. Harrington, filed.
9. October 20 Order to Place Case on Trial List, filed.
10. November 11 Appearance of Freedman, Landy and Lorry, Esquires for Elizabeth M. Worrell, et al., filed.
11. November 24 Withdrawal of Appearance of Walter B. Gibbons, Esquire for Elizabeth M. Worrell, Etc., filed.

[fol. II]

12. December 2 Interrogatories of Claimant, William J. Kernan, Administrator, Etc., to Petitioner, filed.

1954

13. March 1 Answer of Petitioner to Interrogatories filed by William J. Kernan, filed.
14. " 26 Order to Place on Admiralty Trial List, filed.
15. May 3 Order of Court Modifying Order of 5/15/53 to Permit Institution of Certain Suits, filed.
16. July 13 Interrogatories by John J. Meehan, Administrator, Etc. to American Dredging Company, filed.

1955

17. October 19 Partial Transcript of Hearing in Chambers 10/18/55, filed.
18. " 21 Notice by Estates of Milan and Worrell of Taking Depositions of an Official of American Dredging Company, filed.

Date
1955

- | | | |
|-----------------|-----|---|
| October 25 | | Trial—Sur Limitation of Liability, Etc.
—Witnesses Sworn. |
| " 26 | | Trial Resumed. |
| " 27 | | Trial Resumed. |
| " 28 | | Trial Resumed. |
| " 29 | | Trial Resumed. |
| November 4 | | Trial Resumed. |
| " 5 | | Trial Resumed. |
| 19. to | 15. | Testimony Filed (7 volumes). |
| 25, December 14 | | Argument Sur Pleadings and Proofs.
[fol. III] |
| 26, December 14 | | Deposition of Oswald Howard Craven,
filed. |
| 27. " 15 | | Transcript of Argument in Chambers of
12/14/55, filed. |
| * 1956 | | |
| 28, January 19 | | Opinion, Kirkpatrick, Ch. J., Finding
that Petitioner is Entitled to Exonera-
tion, filed. |
| 29, February 6 | | Final Decree Exonerating Petitioner,
Etc., filed. 2/7/56. Noted and Notice
Mailed. |
| 30. " 15 | | Petition of Claimants, William J. Ker-
nan, Administrator of the Estate of
Arthur E. Milan and John J. Meehan,
Administrator of the Estate of Donald
H. Worrrell, for Leave to Appeal, filed. |
| 31. " 15 | | Notice of Appeal of William J. Kernan,
Administrator, Etc., and John J. Mee-
han, Administrator, Etc., filed. 2/16/56
copy to Krusen, Evans and Shaw. |

Date

1956

32. February 15 Copy of Clerk's Notice to U. S. Court of Appeals, filed.
30. " 16 Order Approving Petition for Leave to Appeal, filed. 2/17/56 Noted and copy to Krusen, Evans and Shaw.
33. " 24 Notice of Appeal by Francis J. Harrington, filed. 2/27/56 copy to Krusen, Evans and Shaw.
34. " 24 Copy of Clerk's Notice to U. S. Court of Appeals, filed.
35. " 27 Petition of Francis J. Harrington for Leave to Appeal and Order of Court Allowing Same, filed.
- March 6 Record Transmitted to U. S. Court of Appeals.

[fol. 1] IN THE UNITED STATES DISTRICT COURT

PETITION FOR EXONERATION FROM OR LIMITATION
OF LIABILITY—Filed May 11, 1953

To the Honorable, the Judges of the Said Court:

The petition of American Dredging Company for exoneration from or limitation of liability, respectfully alleges, upon information and belief, as follows:

1. At all times mentioned herein the petitioner, American Dredging Company, was and is a corporation organized and existing under the laws of the State of Pennsylvania, with its principal office and place of business at 12 South 12th Street, Philadelphia.

2. At all times mentioned herein, the Tug "Arthur N. Herron" was owned and operated by your petitioner.

3. The Tug "Arthur N. Herron" is a steel hulled harbor tug used by the petitioner in its operations in and about the Port of Philadelphia.

4. At all times mentioned herein, and particularly on or about November 18, 1952, your petitioner exercised due diligence to make the said Tug "Arthur N. Herron" seaworthy in all respects and to man, equip and supply her properly and, until the catastrophe herein referred to which occurred shortly after 10 P.M. on November 18, 1952, the said Tug was in fact tight, staunch, strong, properly manned, equipped and supplied, and was in all respects seaworthy for the voyage upon which she was then engaged.

5. Shortly after 10 P.M. on the evening of November 18, 1952, the said Tug "Arthur N. Herron" was proceeding down the Schuylkill River and had not yet reached the Penrose Avenue Bridge crossing the said river when, without any warning and without any negligence on the part of your petitioner or those in privity with it, the surface of the river caught fire. Your petitioner is advised, believes and therefore avers that in some manner unknown to your petitioner and for which your petitioner is not responsible, that a slick of oil or other unknown but inflammable substance covered the surface of the Schuylkill River and that the said slick caught fire and burned.

6. As a result of the said fire the Tug "Arthur N. Herron" was badly damaged, several members of its crew are missing and apparently died as the result of the catastrophe. Several other members of the crew sustained or have alleged that they sustained personal injuries.

[fol. 2] 7. The damage to the Tug "Arthur N. Herron" and the consequent loss of life and injuries resulted from causes for which your petitioner is not responsible and the loss is not due to any lack of due diligence on the part of your petitioner or of anyone for whose actions the petitioner would be responsible.

8. Although the petitioner denies that there was negligence on the part of itself or any of its servants, agents or employees, should it hereafter be shown that there was such negligence or negligence which, in whole or in part,

contributed to the said catastrophe, then your petitioner, although persisting in its denial of negligence, avers that any such negligence was that of its servants agents or employees in the navigation and/or management of the vessel. If it should hereafter be shown that there were any defects in the vessel or any unseaworthiness of it, such defects or unseaworthiness were latent and were not discoverable by the exercise of due diligence on the part of your petitioner.

9. The damage to the vessel, the loss of life and the injuries to members of the crew occurred without knowledge or privity of the petitioner and without its fault or liability.

10. Your petitioner has been advised of claims against it as follows:

- (a) A claim for the death of Arthur Milan.
- (b) A claim for the death of Donald Worrell.
- (c) A potential claim for injuries to James Taylor.
- (d) A potential claim for injuries to Francis Harrington.
- (e) A potential claim for injuries to Paul Burgaski.
- (f) A potential claim for injuries to John McGinley.

11. All of the claims referred to in Paragraph 10 of this petition are unliquidated as to amount.

12. No suit has been instituted against your petitioner as a result of the occurrence and a period of six months has not expired since the earliest time at which a claim against your petitioner might have been made as a result of the catastrophe:

13. As will more fully appear by a reference to the affidavit of Theodore De Mars, a competent Marine Appraiser and Surveyor, which affidavit is annexed hereto and made a part hereof, the value of the Tug "Arthur N. Herron" in her damaged condition immediately following the catastrophe did not exceed the sum of Twenty-six Thousand Dollars (\$26,000.00). At the time of the catastrophe the Tug "Arthur N. Herron" was engaged in operations in connection with the business of your petitioner and no hire or pending freight was due.

14. The claims which have been and may hereafter be made against your petitioner as a result of the catastrophe greatly exceed the value of the Tug "Arthur N. Herron" in its damaged condition.

15. Your petitioner, American Dredging Company, claims exoneration from liability as owner and operator of the Tug "Arthur N. Herron" for any loss, damage, injury, destruction or claim of any kind whatsoever occasioned or incurred on the voyage in question and from any and all claims which have been or may hereafter be made, and it alleges that it has valid defenses thereto.

16. If, however, this Court should adjudge that the petitioner is or may be liable to any extent, then your petitioner avers that it is entitled to the benefit of the limitation of liability provided by Title 46 U.S.C. § 181 et sequitur, and of the general rules of practice of this Court in matters within its admiralty and maritime jurisdiction.

17. All and singular the premises are true and within the admiralty and maritime jurisdiction of the United States and of this Honorable Court.

WHEREFORE, your petitioner prays:

(a) That this Court may make appraisal and set the value of the Tug "Arthur N. Herron" in its damaged condition immediately after the fire.

(b) That this Honorable Court enter an order directing the petitioner to file an ad interim statement in the sum of Twenty-six Thousand Dollars (\$26,000.00) with corporate surety for the payment into Court of your petitioner's interest in the said Tug.

(c) That this Court may enter an order directing the issuance of a monition to all persons claiming loss, damage or liens arising during or by reason of the voyage of the Tug "Arthur N. Herron" on November 18, 1952, and that they be cited to appear before a Commissioner to be named by this Court and make proof of their respective claims, and also to appear and answer the allegations of this petition in accordance with the rules and practice of this Court, and that in its said order this Court may fix a period within which such claims shall be filed.

(d) That this Court direct that public notice be given by publication pursuant to the rules of this Court by publishing said notice in The Legal Intelligencer and one other newspaper of general circulation within this District.

[fol. 4] (e) That this Court shall direct that a copy of the said monition be served upon all parties having or who may have an interest in these proceedings by mailing by registered mail a copy of the monition to the said persons or to their attorneys where your petitioner has been notified of the representation of a possible claimant by counsel.

(f) That this Honorable Court shall issue an order restraining the beginning or further prosecution of any suits of any nature whatsoever against your petitioner or its property except in the present proceedings, and that this Honorable Court may direct that property which may already have been attached as the property of your petitioner shall be forthwith released from attachment, and that the further prosecution of any such action or claim be restrained.

(g) That this Honorable Court shall appoint a Commissioner before whom proof of all claims shall be presented pursuant to further order of this Court and the rules and practice in cases of admiralty and maritime jurisdiction.

And your petitioner will ever pray.

Krusen, Evans and Shaw, by /s/ T. E. Byrne, Jr.,
Proctors for Petitioner.

[fol. 5] IN THE UNITED STATES DISTRICT COURT

ANSWER TO LIBEL AND PETITION FOR EXONERATION FROM
AND LIMITATION OF LIABILITY—Filed July 29, 1953

The Answer of William J. Kernan, claimant and respondent herein, to the Libel and Petition for exoneration from and limitation of liability, alleges, upon information and belief, as follows:

1. Admitted.
2. Admitted.

3. Respondent does not have sufficient information to determine the accuracy of the allegation set forth in the Third Paragraph and, therefore, denies same and demands proof thereof, if material.

4. Denied. It is denied that petitioner had used and exercised due diligence to make the Tug "Arthur N. Herron" seaworthy in all respects; it is denied that the said Tug was properly manner and equipped and supplied; it is denied that the said Tug was before and at the time of the accident mentioned tight, staunch, strong, fully and properly manned, equipped and supplied; and it is denied that the said Tug was in all respects seaworthy.

5. Respondent does not have sufficient information to determine the accuracy of the allegations of the Fifth Paragraph and, therefore, denies same and demands proof thereof, except insofar as they are consistent with the averments of the remainder of this Paragraph. On the contrary, respondent alleges that on or about November 18, 1952, the Tug "Arthur N. Herron" took in tow the Scow No. 122 proceeding down the Schuylkill River. The said Scow was moored on the Tug's portside. At or about 10.30 p.m., on the said date, at or near Penrose Avenue Bridge, the Tug and her tow were negligently navigated into a large body of oil or other explosive or combustible material on and about the surface of the water, and the said oil or other explosive or combustible material and/or the said Tug and her tow burst into flames. Respondent's decedent, while engaged in the performance of his duties on board the Tug, was suddenly exposed to the said explosion and fire and was ordered to abandon the vessel and to jump into the river, as the result of all of which he subsequently died. Respondent further alleges that, disregarding its duties in the premises, petitioner, by its agents, servants and employees, was careless and negligent, and that the aforesaid vessels were unseaworthy.

6. Respondent does not have sufficient information to determine the accuracy of the allegations set forth in the Sixth Paragraph and, therefore, denies same and demands proof thereof, if material. It is admitted that Arthur E. Milan died as a result of the aforesaid catastrophe.

[fol. 6] 7. Denied. It is denied that the death of the decedent was not caused or contributed to by any fault, negligence or want of care or design on the part of the said Tug or tow or those in charge of her, nor on the part of the petitioner, nor of anyone for whose acts the within petitioner may be responsible.

8. Denied. On the contrary, respondent avers that the death of the decedent was caused or contributed to by the fault, negligence or want of care or design on the part of the said vessels or those in charge of them or on the part of the petitioner or persons for whose acts the petitioner may be responsible, as is more particularly set forth hereinabove. It is further averred that the said defects of the vessels and their unseaworthiness were not latent and were discoverable by the exercise of due diligence on the part of petitioner.

9. Denied. It is denied that the decedent's death was caused without fault on the part of the petitioner and without its privity or knowledge. On the contrary, respondent avers that the aforesaid death was caused by reason of the fault on the part of the petitioner and with its privity and/or knowledge, as is more particularly set forth hereinabove.

10. Respondent does not have sufficient information to determine the accuracy of the allegations of the Tenth Paragraph and, therefore, denies same and demands proof thereof, if material.

11. Respondent does not have sufficient information to determine the accuracy of the allegations of the Eleventh Paragraph and, therefore, denies same and demands proof thereof, if material.

12. Respondent does not have sufficient information to determine the accuracy of the allegations of the Twelfth Paragraph and, therefore, denies same and demands proof thereof, if material.

13. Denied. It is denied that the value of the Tug "Arthur N. Herron", and the petitioner's entire interest therein, did not exceed Twenty-six Thousand (\$26,000.00)

Dollars. On the contrary, it is averred that the value of the Tug "Arthur N. Herron" and Scow No. 122 at the time of the aforesaid accident was greatly in excess of Twenty-six Thousand (\$26,000.00) Dollars, and that the interest of the within petitioner in the said Tug and Scow exceeded the said amount. It is further averred that the valuation of the petitioner's interest in the within proceedings is not limited to the value of the Tug "Arthur N. Herron", but includes also the value of the Scow No. 122. Respondent has no knowledge concerning whether there was any pending freight or other monies due and, therefore, denies the allegations relating thereto and demands proof thereof at the trial of this cause.

[fol. 7] 14. Respondent does not have sufficient information to determine the accuracy of the allegations set forth in the Fourteenth Paragraph and, therefore, denies the same and demands proof thereof, if material.

15. Denied. It is denied that the petitioner is entitled to the benefit of limitation of liability or exoneration from liability as provided for under the statutes of the United States. It is further denied that the petitioner has any valid defense to any claims arising out of the aforesaid disaster.

16. Denied. It is denied that the petitioner is entitled to the benefits of limitation of liability or exoneration from liability as provided for under the statutes of the United States. It is further denied that the petitioner has any valid defense to any claims arising out of the aforesaid disaster.

17. Denied. It is denied that all and singular the premises of the libel and petition are true and it is further alleged that this Court should not assume jurisdiction for the reasons hereinafter set forth.

Further answering the foregoing Libel and Petition and, as a complete defense to the premises set forth therein, respondent alleges, as follows:

18. Respondent avers that the said Petition is faulty, inadequate and insufficient in-law to sustain the within pro-

ceedings for limitation of or exoneration from liability, in that it fails to aver any facts upon which a proceeding for limitation or exoneration will lie; in that it fails to aver facts to show that the Tug "Arthur N. Herron", or those in charge of the said vessel, or the petitioner, or any for whose acts the petitioner may be responsible, were free from fault, negligence or want of due care; and in that it fails to aver facts to show that the said death and the loss and damages resulting therefrom were occasioned and incurred without fault on the part of the petitioner and without its privity or knowledge, the allegations of the said Petition being merely conclusions of law and not statements of fact.

WHEREFORE, respondent denies that the petitioner is entitled to limited liability or to be exonerated from liability, and prays that the Petition herein be dismissed, and that the injunction entered in this proceeding be dissolved.

Freedman, Landy and Lorry, by /s/ William M. Alper, Proctors for Claimant-Respondent.

[fol. 8] IN THE UNITED STATES DISTRICT COURT.

CLAIM ON BEHALF OF WILLIAM J. KERNAN, ADMINISTRATOR
OF THE ESTATE OF ARTHUR E. MILAN, DECEASED—
Filed July 29, 1953

The claim of William J. Kernan, Administrator of the Estate of Arthur E. Milan, Deceased, alleges, to wit:

First: Claimant, William J. Kernan, was duly appointed Administrator of the Estate of Arthur E. Milan, Deceased, on the order of the Surrogate, County of Burlington, State of New Jersey, on December 17, 1952.

Second: Claimant, William J. Kernan, was appointed Administrator ad prosequendum of the Estate of Arthur E. Milan, Deceased, on the order of the Surrogate, County of Burlington, State of New Jersey, on December 31, 1952.

Third: Petitioner is a corporation duly organized and existing under and by virtue of the laws of the Commonwealth of Pennsylvania.

Fourth: Upon information and belief, claimant avers that at all times hereinafter mentioned, petitioner owned, operated and controlled the Tug "Arthur N. Herron" and Scot No. 122, operating upon navigable waters of the United States.

Fifth: On or about November 18, 1952, and at all times mentioned herein, claimant's intestate, Arthur E. Milan, was employed by the petitioner, American Dredging Company, as a member of the crew of the Tug "Arthur N. Herron" in the capacity of Chief Engineer.

Sixth: On or about November 18, 1952, the said Tug "Arthur N. Herron" took in tow Scow No. 122 at or near Point Breeze, Philadelphia, on the Schuylkill River. At or about 10.30 p.m., on the said date, when the Tug and its tow were at or near the Penrose Avenue Bridge, the aforesaid vessels were negligently navigated into a large body of oil or other explosive or combustible material on or about the surface of the river, and the said oil or other explosive or combustible liquid and/or the Tug and its tow were suddenly caused to burst into flames.

Seventh: At the time and place aforesaid, claimant's decedent, while engaged in the performance of his duties, was suddenly exposed to the said explosions and fire and was ordered to abandon the vessel and to jump into the Schuylkill River, as a result of all of which he subsequently died.

Eighth: Disregarding its duties in the premises, the petitioner, by its agents, servants and employees, was careless and negligent and the said vessels were unseaworthy in:

[fol. 9] (a) failing to provide a reasonably safe place for the performance of decedent's duties;

(b) failing to take proper precautions for the safety of the decedent;

(c) failing to navigate the Tug and tow in a safe and proper manner, under the circumstances;

(d) navigating the Tug and tow into the aforesaid inflammable substances;

(e) failing to navigate the Tug and tow in a manner to escape the aforesaid inflammable substances and the aforesaid explosions and fire;

(f) failing to discover the plight of the Tug and tow within a reasonable time and failing to take adequate measures to avoid the said explosions and fire;

(g) failing to maintain a proper lookout under the circumstances;

(h) directing, causing, permitting or allowing the decedent to be precipitated over the side of the vessel into the water;

(i) failing to give the decedent prompt and adequate warning of his danger, under the circumstances;

(j) providing and using navigation lights on the tow with open flame and which were otherwise dangerous and improper, under the circumstances;

(k) causing the aforesaid explosions and fire;

(l) failing to make sufficient, adequate and proper efforts to rescue the decedent, under the circumstances, and failing to institute proper and adequate life saving operations;

(m) failing to provide, maintain and operate proper, adequate and seaworthy life boats, life preservers and other safety and life-saving devices;

(n) failing to provide a seaworthy and safe Tug and Scow and appurtenances, and to keep same in a seaworthy and safe condition.

Ninth: As a further consequence of the negligence of the petitioner and the unseaworthiness of the vessels, claimant avers that the decedent suffered severe and agonizing pain, shock and mental anguish before he died.

Tenth: At the time of his death, decedent was a strong, robust, and able-bodied man, with prospect of substantial advancement and future earning capacity.

[fol. 10] Eleventh: During the period of decedent's employ by the petitioner, he well and truly performed all his duties in a capable and satisfactory manner and was obedient to all lawful commands of the officers of the said vessel.

Twelfth: The Decedent left surviving him his widow, Viola V. Milan, and other relatives who suffered pecuniary loss by reason of the death of the decedent.

Thirteenth: Claimant brings this claim to recover damages on behalf of the surviving next-of-kin and heirs-at-law of the decedent to the extent of their pecuniary loss, by reason of the death of the decedent and also claims on behalf of the Estate of Arthur E. Milan damages which the decedent would have been entitled to receive had he not died, and such other damages to which the claimant may be entitled.

WHEREFORE, claimant claims the sum of One Hundred Fifty Thousand (\$150,000.00) Dollars from the petitioner.

Freedman, Landy and Lorry, by /s/ William M. Alper, Proctors for Claimant

Duly Sworn to by William J. Kernan (Jurat omitted in printing).

[fol. 11]

Notes of Testimony

PETITIONER'S EVIDENCE

PAUL BUGOSKI, having been duly sworn, was examined and testified as follows:

Direct examination.

By Mr. Byrne:

Q. Mr. Bugoski, where do you live?

A. Almonessen Road, Blenheim, New Jersey.

Q. Will you speak a little more slowly?

The Court: And sit as far forward as you can get your chair.

By Mr. Byrne:

Q. And speak a little more slowly, please, Mr. Bugoski, because whatever you say has to be taken down by a reporter.

A. All right.

Q. Mr. Bugoski, in November of 1952 by whom were you employed?

A. American Dredging Company.

Q. How long had you been employed by American Dredging Company at that time approximately?

A. Five years.

Q. What was your occupation at that time?

A. Oiler.

Q. Are you now employed by American Dredging Company?

A. No, I am not. I work for Patterson Oil.

Q. Were you attached to any particular vessel of American Dredging Company?

A. "Arthur N. Herron".

Q. On the night of November 18th were you on the "Herron"?

A. Yes, I was.

Q. And you were the oiler. Now, as an oiler what were your duties on that evening?

[fol. 12] A. Well, similar to an apprentice engineer, or you make your rounds hourly and you lubricate the moving parts of the engine as you are underway.

Q. And you had considerable experience working around engines of this type in engine rooms of this type?

A. Yes, I have.

Q. What was the condition of the engine that evening, Mr. Bugoski?

A. Well, my personal opinion would be A-1 condition.

Q. Were any of the bearings running hot to your knowledge?

A. No, sir.

Q. Were the engine and the engine room kept in good repair from what you could observe?

A. Yes, sir.

Q. Now, what time had you come on duty that night?

A. I think it was six o'clock was our changing crew time.

Q. Was your change of what?

A. Changing crews.

Q. Changing crews. And was there anyone else on duty in the engine room with you?

A. Engineer.

Q. And his name?

A. We used to call him "Whitey".

Q. Was that Mr. Milan?

A. Mr. Milan, yes, sir.

Q. Now, during the early part of the evening of November 18, 1952, did the "Herron" perform any towing operation?

A. Well, yes, sir, we went out to the Mantua Mooring to pick up a light scow and we took the dredge "Baltic."

Q. Now, where is the Mantua mooring?

A. Well, I would say it is right abreast of Fort Mifflin.

Q. In the Delaware River?

A. Yes, sir.

Q. And you took it to where?

A. To the dredge "Baltic" in the Schuylkill.

Q. Where was that operating?

A. Right abreast of Atlantic dock.

Q. In what river?

A. Schuylkill.

Q. What was it you were taking from Mantua anchorage to the dredge "Baltic"?

A. A light scow, an empty barge.

[fol. 13] Q. Mr. Bugoski, you have referred to the dredge "Baltic." I hand you photographs which have been marked for identification as P-3 and P-7. Is the dredge "Baltic" shown in either or both of those pictures?

A. It is shown in P-7.

Q. Shown in P-7.

A. Coming up the river.

The Court: Point to it. Show me where it is.

The Witness: (Indicating)

By Mr. Byrne:

Q. Is it shown on P-3 at all?

A. No, it is not. You can barely distinguish the dredge.

Q. It is shown also in P-3?

A. Yes, sir.

Q. But further upriver than in P-7, is that what you mean?

A. That is right, sir.

Q. Now, take a look at where that dredge appears in P-3 and P-7, and tell me if it was at that location or either of those locations when you went up to it on the evening of the 18th or whether it was some place else.

A. It was up the river further.

Q. It was up the river further. Where did you say, the Atlantic?

A. Yes, sir.

Q. Now, Mr. Bugoski, in taking the light or empty scow up the Schuylkill River was it daylight or dark?

A. It was dark.

Q. Was there anything out of the ordinary happened on the trip upriver?

A. Not to my knowledge.

Q. What lights did you have on the scow?

A. They are portable kerosene lanterns.

Mr. Freedman: Would you please keep your voice up!

The Court: Yes, speak a little louder, if you can.

"They were portable kerosene lamps."

By Mr. Byrne:

Q. Had you anything to do with those lamps that day, sir?

A. No, sir.

Q. Did you see them?

A. I saw the deckhand go out on the barge with them.

Q. You saw the deckhand go out on the barge with them?

A. Yes, sir.

[fol. 14] Q. What was their condition so far as you could see at that time?

A. They were lit.

Q. And you say you saw the deckhand go out on the barge with them at that time. Do you mean at the start of that trip or at the start of some other trip?

A. At the starting of that trip going to the barge.

Q. In other words, starting at Mantua Creek anchorage?

A. Yes, sir.

Q. Now, when you got to Mantua Creek—

By the Court:

Q. Before you leave that, so as to get the continuity, how many lights were there, how many lamps?

A. We carried two, one forward and one aft, sir.

Q. Were they in the middle of the barge or——

A. One on each end, sir, forward and aft.

Q. But in the middle or were they on the corners?

A. They were on the outside corner of the tow.

By Mr. Byrne:

Q. How close to the forward and after edge and to the side would you say those lanterns were that night on the trip upriver, if you know?

A. I would say they were right alongside of the hatch. The hatch is three-quarters amidship.

By the Court:

Q. But how far from the side?

A. In feet?

Q. Yes.

A. Approximately eight feet.

Q. Eight feet from the side of the barge?

A. Yes, sir.

Q. How far from the end?

A. Approximately ten.

By Mr. Byrne:

Q. And when you towed the light scow upstream how was it attached to the barge, or to the tug, rather? How was it attached to the tug?

A. Well, we have a towline, bowline and a sternline.

Q. Was it towed alongside or astern?

A. Pardon?

Q. Alongside or astern?

A. The tow alongside of the scow?

Q. Yes.

A. Mostly to the stern.

[fol. 15] Q. But was it tied to the side or was it being towed on a hawser from the——

A. The towboat was alongside the scow.

Q. The towboat was alongside the scow. And when you got to the dredge "Baltic," what was done?

A. We put the light scow to the dredge, made up to the loaded scow, started downstream.

Q. To which side of the tug was the loaded scow tied?

A. The port side.

Q. The port side?

The Court: Would that be the east or the west side? That would be the east side, wouldn't it?

Mr. Byrne: Sir, I would say the river runs very nearly east and west there.

The Court: Well, call it the Philadelphia side and the Chester side. Which would it be?

The Witness: It would be the Philadelphia side, sir.

The Court: All right.

By Mr. Byrne:

Q. What, if anything, was on the dredge—on the scow by way of lights?

Q. Well, just before they put the light scow to the dredge, they removed the lanterns, put them on the boat, and after they make up to the loaded scow, they carry their lights out.

The Court: They put them back again?

The Witness: On the loaded scow.

The Court: The same place as when it was light?

The Witness: Yes, sir.

By Mr. Byrne:

Q. Mr. Bugoski, was anything done while the tug was up at or near the dredge "Baltic" to use any of the pumps on the "Herron"?

Mr. Freedman: Wait a minute. I didn't get that.

By Mr. Byrne:

Q. Were the pumps on the "Herron" used when the tug and the tow were up at or near the dredge "Baltic"?

Mr. Freedman: No objection.

A. Well, I don't remember whether there was or not, but there is times where they do——.

Mr. Freedman: Just a minute.

Mr. Byrne: If you don't remember, Mr. Bugoski, that is all right.

The Court: Yes, that is as far as you can go.

[fol. 16] By Mr. Byrne:

Q. Starting down the river, where were you headed from the dredge "Baltic"?

A. Well, we started for the Mansion Morrell, where we picked up a light scow.

Q. How far did you get?

A. Well, actually about twenty minutes.

Q. How far would that be in distance, one mile, two miles, half a mile? Do you know? Can you estimate it?

A. A rough guess, I would say about two and a half miles.

Q. Two and a half miles?

The Court: This is going back with the loaded scow?

The Witness: Yes, sir.

Mr. Byrne: Yes.

By Mr. Byrne:

Q. That would be going downriver at this point?

A. Yes, sir.

Q. What, if anything, happened on the trip down the river?

A. What, if anything, happened?

Q. Yes, sir.

A. Well, after he was underway about twenty minutes, it seemed all hell broke loose.

Q. Where were you at that time?

A. Well, at the beginning?

Q. Yes, the first thing that happened, where were you?

A. In the upper engineroom.

Q. You were in the upper engineroom.

What did you see happen or hear happen or observe any way with your senses?

A. Well, it seemed like a rumble; a thunder in the dis-

tance, and as I looked out the porthole, I felt a hot flash hit me right in the face.

Q. A flash of light?

A. Fire.

Q. Fire.

Can you tell the Court your best estimate of how high the flame was?

A. Sir, it got so hot you couldn't see the top.

Q. You couldn't see the top. You were still inside looking through the porthole?

A. Yes.

[fol. 17] Q. Your attention was attracted by the noise, which, you said, was like distant thunder?

A. Like a rumble.

Q. Like a rumble. Was there any fire inside the engine-room of the tug at that time?

A. No, sir.

Q. Where was the fire, as nearly as you can see?

A. It seemed to come in on the outside of the scow.

Q. The outside of the scow?

A. Yes, which would be—

Q. That would be the Philadelphia side, would it, Mr. Bugoski?

A. The Philadelphia side.

Mr. Freedman: I object.

Mr. Byrne: Why do you object?

Mr. Freedman: To the leading question. Ask him a question. Don't tell him the answer.

The Court: It came from the Philadelphia side, or seemed to come from there?

The Witness: Yes, sir.

By Mr. Byrne:

Q. I take it from that, Mr. Bugoski, you looked out the port or the starboard side?

A. The port side.

Q. The port side. Were the doors of the engine room open or closed?

A. They were open until the Captain gave us orders to shut them.

Q. In other words, at the very beginning, the doors were open?

A. Yes, sir.

The Court: When did the Captain give you orders to shut them?

The Witness: Well, when everything got so hot we all took refuge in the engineroom.

The Court: After the explosion?

The Witness: Yes.

Mr. Byrne: That comes later.

The Court: Oh. I didn't know.

By Mr. Byrne:

Q. Mr. Bugoski, who was in the engineroom with you at the time that this noise occurred when you looked out the port side and saw the flame?

A. Well, at that present moment, I was just—just Whitie and myself.

Q. And Whitie would be Mr. Mylan?

A. Yes.

[fol. 18]: The Court: Mr. Who?

Mr. Byrne: Mylan, M-y-l-a-n.

By Mr. Byrne:

Q. Did you see any fire on the tug prior to the time you heard noise and looked out and saw the flames?

A. No, sir.

Q. Were the flames coming from the scow or the tug, or did they seem to be on the river, or where were they?

A. After the rumble, it seemed like they run right along side the scow, and the first thing it seems we were all in flames.

Q. You were all in flames. Now, could you in the engineroom, Mr. Bugoski, tell how far to the one side or the other that fire extended?

A. No, sir, I couldn't.

Q. Could you see fore and aft, or did you look fore and aft?

A. At the impulse of the moment, you couldn't see anything.

Q. What?

A. At the impulse of the moment, you couldn't see anything.

The Court: He said at the impulse of the moment, you couldn't see anything.

By Mr. Byrne:

Q. Do you know whether fire was or was not on all sides of your tug?

Mr. Freedman: If the Court please, the witness has already answered that. I think he has asked this question two or three times, and I think the witness has given his best recollection.

By the Court:

Q. Did you look to the starboard at any time?

A. Yes, sir, that was the last time I saw the engineer, sir.

Q. When you looked to the starboard, was there fire on the starboard?

A. Yes, sir.

Q. As well as the port side?

A. Yes, sir.

Q. What did this fire look like? Did it look like a burst of something, or more like a wall of fire? Could you give me some idea of whether it looked like a shell burst or more like a wall of fire?

A. Sir, it seemed like we run into a pocket of fire.

Q. One more question. I believe you told me that sometime after you first saw it, it kept going higher and higher. Is that what you said?

A. Well, sir, when I first looked out, I looked out the side of the scow, and it rolled along the scow, and we were surrounded.

Q. Rolling toward you?

A. Yes, sir.

[fol. 19] Q. From the other side of the river?

A. It seemed to come from all directions.

Q. All right.

A. After we heard the rumble, it seemed to come from all directions.

Q. When was it you looked to see how high it was and you said you couldn't see the top of the fire? Didn't you say that?

A. At the time I felt the impact on my face, you couldn't see the height of it.

Q. You couldn't see the height of it?

A. No, sir.

Q. In other words, it extended above the line of your vision?

A. Yes, sir.

Q. All right.

By Mr. Byrne:

Q. Mr. Bugoski, you just told Judge Kirkpatrick that the flames extended higher than your line of vision. Can you tell us approximately what your line of vision was? In other words, how high could you see before you made that observation?

A. Well, I would say you could see at least 15 feet over the top of the scow after they are loaded.

Q. I see. And the flame was beyond that point?

A. Yes, sir.

Q. Now, Mr. Bugoski, after this occurred, what did you do next, or what did you see next, either one?

A. Well, it got so smoky on the inside you could hardly see anything. Besides, your eyes were smarting, and if your vision was clear, you couldn't see anything. It was so severely hot in there, I had a jacket hanging near the stern of the engineroom, and I put that over my face to breath a little bit.

Q. Did you see any of the other members of the crew?

A. After it got so smoky, the only one I could see was Harrington.

The Court: Who?

The Witness: Harrington, sir.

Mr. Byrne: Harrington.

The Court: Harrington? Who was Harrington?

The Witness: He is the deck hand, sir.

By Mr. Byrne:

Q. Was Harrington in the engineroom at the time the fire started or when you first heard this noise that indicated that the fire had started?

A. He came in a few seconds after.

Q. He came in a few seconds after. Who else did you see after that noise?

A. I saw Jim Taylor.

[fol. 20] Q. Jim Taylor?

A. Yes, sir.

The Court: Who is Jim Taylor?

The Witness: He is the Captain, sir.

By Mr. Byrne:

Q. Did you see anyone else?

A. No, sir.

Q. Now, where was Jim Taylor when you first saw him?

A. There is a little bridge, right midship of the engineroom. I saw him on that bridge.

Q. He had not been in the engineroom, or had he been in the engineroom when the noise occurred?

A. I haven't seen him prior to that time.

Q. I see.

The Court: This bridge, was that on top of the engineroom?

The Witness: That is the upper engineroom, yes, sir.

By Mr. Byrne:

Q. Does that bridge which you have described appear on any of these photographs?

A. It is the inside.

Q. Well, there are several photostats. Look at them and see if you can find it.

A. There it is, right here, right between these two rails (indicating).

The Court: Right between these two rails?

The Witness: Right here, see (indicating).

Mr. Byrne: Is that it?

The Witness: Yes.

The Court: It looks as if you couldn't stand on it.

The Witness: It is right in there (indicating).

The Court: What is it that you stand on?

The Witness: Sort of a grating.

The Court: Where is the grating?

The Witness: It should be right in there (indicating).

The Court: Now I see it. It is just an elevation. It is in the engineroom.

By Mr. Byrne:

Q. Is that what you refer to as the upper engineroom?

A. Yes, sir.

The Court: It is not a separate room.

Mr. Freedman: Should we mark it?

Mr. Byrne: It has been marked. The witness has referred to it, and he has pointed to the picture marked 17-10.

Mr. Freedman: Yes, I know, but I think the witness perhaps ought to put an "X" where the grating is.

[fol. 21] Mr. Byrne: He can do that on cross-examination, Mr. Freedman.

The Court: It doesn't matter.

Mr. Freedman: I suggested that the witness put his finger on a spot, and it should be tied down in the record.

The Court: Let me see the picture, and you show me the grating where the Captain was standing.

The Witness: Right between these two hand rails, sir, which would be on the bottom of this post here (indicating).

The Court: Right on the bottom of this post (indicating)?

The Witness: Yes.

The Court: It is hard for me to see that. Do you have another picture that is better than this?

Mr. Byrne: Sir, there are other photographs which haven't been marked. I don't know whether that particular thing is shown any better on them or not.

The Court: This doesn't look like a grating to me. It doesn't look like anything.

The Witness: That is the only one I see.

The Court: You point to exactly where the Captain was standing. You put your finger on that, and I will mark it.

The Witness: Right about here (indicating).

Mr. Freedman: Thank you, your Honor.

The Court: That is where his feet were?

The Witness: No, that is where his hands were. His feet were here (indicating).

The Court: I will put a line here. Would that be it (indicating)?

The Witness: Yes, sir.

The Court: And his feet were here (indicating)?

The Witness: Yes, sir.

The Court: And his hands were up there. I think that is clear enough. It is sort of hard to get perspective in that picture.

By Mr. Byrne:

Q. Mr. Bugoski, how long was it, if you can estimate for us, between the time that this noise occurred and the time you first saw Taylor?

A. A matter of seconds.

Q. A matter of seconds. Did anyone give you any orders after this fire started?

A. Yes, sir. I heard the captain holler to close the hatch, which is the doorways. A few minutes after that he told us to abandon ship.

[fol. 22] Q. Were there any engine orders given that you heard?

A. Well, at first he hollered to the engineer to stop her; to stop here. Then he hollered to the engineer to reverse the engines, which he did. And that was only maybe one or two revolutions of the wheel and he gave orders for the engineer to stop her from going astern, but there was no one to stop her so he stopped her.

Q. Now, see if I get you right. The first order was to stop—the engines had been going ahead. The first order was to stop.

A. The first orders were to close the hatch.

Q. Close the hatch.

A. The doorways.

Q. And so far as the engine was concerned, the next order was to stop the engine?

A. That is right.

Q. The next *engine* was to reverse it?

A. Yes, sir.

Q. And the next order was to stop it after it had been going astern?

A. Yes, sir.

Q. When was the abandon ship order given with respect to the time that the fire started? Could you estimate for us how long it was in minutes?

A. The exact time I don't believe I could.

By the Court:

Q. Try to give us the best you can on it. Was it a matter of minutes?

A. Your Honor, it was probably a matter of seconds but it seemed like a lifetime.

Q. I guess it is very hard to do. Do you think it was as long as a minute?

A. Well, it could be and it could not be, sir.

Q. Let me give you a minute. I will just tap here at the beginning of a minute and at the end of a minute. Now. You tell me when you think the time expired.

A. That is about a minute.

Q. That is half a minute actually. That being a half minute, how long do you think it was between the time you heard the rumble and the abandon ship order?

A. Well, I would say maybe between five and fifteen minutes.

The Court: Between five and fifteen minutes. All right. That was only half a minute that you got there. In other words, it will be ten to thirty times as long as that?

The Witness: Well, sir, when you are in a predicament like that it is—

The Court: Oh, I know. Nobody is going to hold you to it. I am just trying to get the best you can give us.

By Mr. Byrne:

Q. Your best estimate now, after going through that experiment, Mr. Bugoski, as to the time—

[fol. 23] Mr. Freedman: Isn't that the same question that Your Honor just asked him?

The Court: Well, I want him to think it over and give us the best he possibly can on it.

The Witness: Well, sir, I will say five minutes.

The Court: All right. In other words, about ten times as I indicated there.

The Witness: Yes, sir.

The Court: All right.

Mr. Freedman: May I have the question? What was that, over what period of time did that extend? From when to when?

The Court: From the time he heard the rumble first until the abandon ship order was given.

That is what you understood, was it?

The Witness: Yes, sir.

By Mr. Byrne:

Q. Mr. Bugoski, during that time what happened in the engine room with respect to the fire, if anything?

A. Well, the upper deck was burning and starting to fall down in the engine room, inside of the engine room, and we was being burnt with the falling burning timbers.

Q. What were the conditions with respect to smoke inside the engine room?

A. Hot.

Q. With respect to smoke?

A. It was full of smoke.

Q. Full of smoke. And you said that the captain was the one who finally stopped the main engine, is that correct?

A. Yes, sir.

Q. Were there any other engines or motors—no, engines, operating inside the engine room at the time?

A. We have an auxiliary generator that is running continuously.

Q. Was that operating during this period?

A. At that time it was.

Q. How long did that continue to operate?

A. Just about the time he pulled the controls, why, the auxiliary stopped.

Q. Why did that stop, could you tell?

A. Well, it could be that there was no oxygen in the engine room and it got choked up.

Q. Did you turn any control or pull any switch that stopped that auxiliary engine?

[fol. 24] A. No, I didn't.

Q. Did you see anyone else do that?

A. No, I didn't.

Q. Was there any order given with respect to the auxiliary engine stopping it?

A. No, sir.

Q. But about the time you left the engine room it choked out?

A. Yes, sir.

Q. Now, was there any fire-fighting equipment in the engine room of the tug, Mr. Bugoski?

A. There was two-quarter tanks of carbon tetrachloride.

The Court: Fire extinguishers?

The Witness: Yes, sir.

By Mr. Byrne:

Q. Did anyone attempt to use them?

A. No, sir.

Q. In your opinion would it have done any good if they did?

A. No, sir.

Mr. Freedman: I object.

The Court: Well, that is pretty hard to say.

By the Court:

Q. What were the conditions at the time—well, the engine room was full of smoke and you say there were pieces of burning timber and things falling from the roof.

A. Yes, sir.

Q. What in your opinion—I think I will allow that—would have been accomplished by the use of these extinguishers?

A. Well, sir, most of the fire was up above us. It wouldn't do no good if you did use it.

By Mr. Byrne:

Q. Was there fire still on the surface of the water at the end of this five-minute period?

A. As we went overboard?

Q. Yes, sir.

A. Yes, sir, it was still burning in blotches.

By the Court:

Q. Still burning in blotches?

A. Yes, sir, in patches, sir.

Q. Then it had gone down to some extent?

A. Yes, sir.

[fol. 25] By Mr. Byrne

Q. Had the fire gone down into burning in blotches all around the tug, Mr. Bugoski, or in some particular direction from the tug?

A. Well, sir, we was at the stern of the ship and that is where it was.

Q. Did you observe the fire conditions forward of the ship's bow?

A. Yes, sir, it was very hot and I was concerned about the fuel tanks exploding.

Q. Was there more or less fire forward of the bow than there was aft of the stern?

The Court: Do you mean on the water?

Mr. Byrne: Yes, sir.

A. Well, sir I couldn't tell. I was interested in the part I was going into.

By Mr. Byrne:

Q. At any time while you were still on the tug, Mr. Bugoski, were you able to see what area of water was covered with flames? In other words, could you see through the flames at the edge so you could tell how far it was to the end of the fire?

By the Court:

Q. Could you see how big the blotches were? That is what he wants to know.

The Court: Isn't it, Mr. Byrne?

Mr. Byrne: The entire fire.

The Court: Oh, the big fire that started it.

By the Court:

Q. Could you tell what area it covered?

A. No, sir.

Q. When you first saw it?

A. No, sir.

By Mr. Byrne:

Q. Why was that? Was it——

Mr. Freedman: Now,——

The Court: That is all right. Well, I understand. It was a sheet of flame, that is what it was.

The Witness: Yes, sir.

By Mr. Byrne:

Q. Now, Mr. Bugoski, did you at any time attempt to fight the fire or any small isolated fire on the tug?

A. On the way out I threw the switch on the overboard pump, which I wasn't going to fight the fire, the life jacket was afire.

Q. Whose life jacket?

A. Harrington's.

Q. Now——

[fol. 26] A. We didn't get no water because everything was dead and I just beat it out with my hands.

Q. I see. Were the lights on or off at that time?

A. They were off, sir.

The Court: Off?

The Witness: Yes, sir. When we was abandoning ship they were off.

The Court: Yes. I didn't hear what you said.

By Mr. Byrne:

Q. And had the auxiliary generator that you spoke about, was that still running or had that stopped?

A. That was dead.

Q. It was stopped dead?

A. Yes, sir.

Q. Is that the only source of current for that pump?

A. Yes, sir.

Q. At any time, Mr. Bugoski, after the noise at first attracted your attention here did you see Mr. Worrell?

A. No, sir.

The Court: Who is this man?

Mr. Byrne: Mr. Worrell, W-o-r-r-e-l-l, sir. He is one of the decedents.

The Court: Did he say no?

The Witness: No, sir.

The Court: You did not see him at any time?

The Witness: No, sir.

By Mr. Byrne:

Q. Did you know where Worrell was at the time that occurred?

A. Yes, sir.

Q. Did you actually know then or have you just found out since the fire?

A. I knew then.

Q. Where was he?

A. In the wheelhouse.

Q. In the wheelhouse. Was there any method of signaling between the wheelhouse and the engine room?

A. Yes, sir, there is a speaking tube.

Q. Did Worrell send any signal at all from the pilot house to the engine room that you heard or know of?

A. No, sir.

Mr. Freedman: I didn't get that.

The Witness: No, sir.

[fol. 27] The Court: He did not send any signal at all to the engine room.

By Mr. Byrne:

Q. Now, were there any life jackets in the engine room?

A. Yes, sir.

Q. Do you know how many?

A. Four.

Q. Four?

A. Yes, sir.

Q. Mr. Bugoski, are you familiar enough with that tug to tell us whether there were life jackets any place else on the tug other than or in addition to the four that were in the engine room?

A. Yes, sir, they have some in the wheelhouse and they have some down the forepeak.

The Court: What is the last, down where?

The Witness: The forepeak, sir.

The Court: In the forepeak?

The Witness: Yes, sir.

By Mr. Byrne:

Q. What is the forepeak?

A. That is where the crew changes quarters and their sleeping quarters.

Q. Now, did you get a life jacket before you left the engine room?

A. Yes, sir.

The Court: I haven't been told—I would like to know how many men were on the tug at the time of this happening?

By Mr. Byrne:

Q. How many men were on the tug?

A. Five on watch.

Q. Pardon me?

A. Five.

By the Court:

Q. Altogether.

A. Six altogether, sir.

Q. Altogether, I mean.

A. Six.

Mr. Byrne: Six.

By Mr. Byrne:

Q. Will you name them for the Court? Tell us their positions.

A. McGinley, the cook; Harrington and Worrell, the two deckhands; and Whitey, the engineer; Jim Taylor, the captain, and myself, the oiler.

Q. Was that the full normal crew for that tug?

A. Yes, sir.

The Court: I have six.

[fol. 28] Mr. Freedman: If the Court please, I object when he says full normal crew. Normal according to what standard and what regulations?

By the Court:

Q. Is that the crew you always carried? Is that the size of the crew?

A. No, sir, there is a crew of fifteen. Counting the cook is sixteen.

Q. You sometimes carried as many as sixteen, is that right?

A. They are not all at once, sir.

Q. Oh. What was the ordinary number you carried at one time?

A. Six, sir.

Q. In other words, that was—let's leave the word "normal" out, but that was the usual crew that you had on board?

A. For operating, yes, sir.

By Mr. Byrne:

Q. Mr. Bugoski, you said that they had sometimes had fifteen. What did you mean by that?

A. Well, we worked twelve and twenty-four; twelve hours on, twenty-four hours off, and there are two other crews that works the two 12-hour watches that were off.

The Court: They were just assigned to the tug?

The Witness: Yes, sir.

The Court: But the operators, there are only usually six?

The Witness: At a time, sir; yes, sir.

By Mr. Byrne:

Q. In other words, what you mean there were six on for twelve hours—

The Court: I can't get it wrong, it is all right. I don't need any more information.

Mr. Byrne: All right.

By Mr. Byrne:

Q. Now, you saw Mr. Milan in the engine room prior to the time the fire started?

A. Yes, sir.

Q. You saw him after the fire started, I take it from your testimony, is that correct?

A. Yes, sir.

Q. When was the last time you saw Mr. Milan?

A. When he stopped the engines from going ahead?

Q. You did not see him thereafter?

A. No, sir.

Q. Why was that?

A. Well, at that time the room was getting so full of smoke you couldn't see.

Q. When you left the engine room did anyone go with you?

A. Yes, sir.

[fol. 29] Q. Who?

A. Harrington.

Q. Harrington. And what happened to you? What did you do and see from that point on?

A. Well, as we left the engine room Harrington was concerned about the cook, which his quarters is aft of the engine room, and I took it for granted that the cook was gone because the place, the mattresses was even burning. When we got on the stern—

Q. How do you know the mattresses were burning?

A. You could see them, sir.

Q. Go ahead.

A. As we got back on the stern, why, we heard an order from out in midstream to jump, and I took it for granted that it was Taylor's voice.

By the Court:

Q. Was it Taylor's voice?

A. Yes, sir. That is the captain, sir.

By Mr. Byrne:

Q. Now, what was the condition of the surface of the river—

The Court: Pardon me. Again I don't want to interrupt, but you started asking him about the cook.

Mr. Byrne: All right, sir, I will follow that through.

The Court: I don't think he finished it.

Mr. Byrne: I think that is probably true, sir. Thank you.

By Mr. Byrne:

Q. What did Harrington do?

A. As we got on the stern of the boat it seemed to me that Harrington was getting a little panicky and instead of jumping he was getting ready to kneel down and pray in the burning hawser, which we have on the fantail, and as he was getting ready to kneel I pushed him and as soon as he was clear I went in after him.

Q. Now; the cook, you have said that you looked in and—

A. We didn't look in, sir, we just glanced in.

Q. Glanced in. But you did not see Mr. McGinley, the cook?

A. No, sir.

Q. When did you next see Mr. McGinley?

A. When we was in the Gulf pumproom.

Q. I see.

By the Court:

Q. Where did Harrington kneel down, did you say?

A. He started to kneel on the fantail, sir.

Q. On the fantail?

A. Yes, sir.

[fol. 30] By Mr. Byrne:

Q. Did you say on a burning hawser?

A. That is right.

Q. At the time you left the tug will you describe for the Court as nearly as you can how much of it was burning, at the time you jumped overboard.

A. Well, the only thing I could see was after a few minutes in the water I just turned and gave a slight glance and it was all aflame.

Mr. Freedman: It was what?

The Witness: It was all aflame.

By Mr. Byrne:

Q. Now, can you describe for us—

The Court: Just so I keep it straight; who were the two men who were killed?

Mr. Byrne: Worrell and Milan; Judge Kirkpatrick.

The Court: Milan.

By Mr. Byrne:

Q. Now, can you describe for us, Mr. Bugoski, the condition of the flame on the water at the time you jumped in?

A. Sir, they were in patches, and it was very small.

Q. It had burned down?

A. Very low.

Q. I see. How long would you say it took you from the time Taylor gave you the order to abandon ship until the time you were in the water?

A. Just as long as it would take you to walk to the side, jump on the fantail, and jump over.

Q. In other words, fairly quickly?

A. Yes.

Q. At that time the flames had reduced in size?

A. Yes, sir.

Q. Had reduced on the water?

Mr. Freedman: I object to that, sir. I think the testimony is in.

The Court: Yes, I think it is. I don't think you need to go into that.

Mr. Byrne: All right.

By Mr. Byrne:

Q. Did you have an opportunity, Mr. Bugoski, to see the size of the flame forward of the tug?

Mr. Freedman: When?

By Mr. Byrne:

Q. Just as soon as you jumped in?

A. No, sir.

Q. Now, when you got in the water, what did you do?

[fol. 31] A. Swam ashore.

Q. Did you have a lifejacket?

A. Yes, sir.

Q. And Harrington—strike that.

Was anyone close to you in the water?

A. No, sir.

Q. What became of Harrington after you pushed him in?

A. It seems he gave three strokes, and he was on the other side.

The Court: Where were you in the channel when this thing took place? How far were you from the Philadelphia side, how far from the Chester side? Were you in the middle?

The Witness: I would say we were midstream, sir.

The Court: Right amidstream?

The Witness: Yes, sir.

Mr. Freedman: What was that, Your Honor?

The Court: He said he was amidstream. When you jumped in and Harrington was pushed, which shore did you go to?

The Witness: We went to the Philadelphia shore, sir.

The Court: Philadelphia?

The Witness: Yes, sir.

By Mr. Byrne:

Q. Now, the scow that you were carrying, Mr. Bugoski, of what was it constructed?

A. Steel.

Q. Steel. What was it carrying?

A. Mud.

Mr. Byrne: You may cross-examine.

Cross examination.

By Mr. Freedman:

Q. Mr. Bugoski, do you remember testifying before the Coast Guard shortly after this occurrence, on November 21 to 24 of 1952?

A. Yes, sir.

Q. Did you tell them everything you knew about the case then?

A. Yes, sir.

Mr. Byrne: That is objected to.

The Court: Well, I will overrule the objection. It is all right.

Mr. Byrne: Well, if the Court please, the basis of my objection is this, that is a question and answer report, and to say did you tell them everything you knew in response to questions and answers is an unfair and an improper question, even on cross-examination.

[fol. 32] Unless you hand the testimony to the witness, give him the testimony, let him read it and then ask him if that is everything he knew about the fire or not. I think it is unfair on that ground. I don't object to his confrontation in the proper way.

The Court: I will still allow the question.

By Mr. Freedman:

Q. Was your recollection better then than it is now, Mr. Bugoski?

A. I would say it is about the same.

Q. Sir?

A. I would say about the same.

The Court: He said it was about the same.

By Mr. Freedman:

Q. You mean it is as good now as it was then?

A. I would say it was.

Mr. Freedman: If the Court please, instead of breaking it up into different points, I am going to read a good bit of this, and I think it will cover substantially all of the testimony that he gave here.

Mr. Byrne: Would you like to follow it, sir?

The Court: Yes, if you have a copy.

Mr. Byrne: What page are you reading from, Mr. Freedman?

Mr. Freedman: Page 33.

The Court: Well, you don't need to read the first part of that.

Mr. Freedman: I am going to start with page 33.

The Court: What question?

Mr. Freedman: Question No. 7. I think that is probably the best place to start.

The Court: All right.

By Mr. Freedman:

Q. Do you remember being asked this question—do you remember that you were asked the following questions and gave the following answers:

"Directing your attention to the incident described in prior testimony, will you start at about 9:30 on the night of November 18 and describe what transpired on the 'Arthur N. Herron' from then on?"

The Court: Pardon me. What you want to know is whether there is any difference between what he said then and what he says now, isn't it?

Mr. Freedman: Yes, Your Honor.

The Court: That is what we want to know.

(To the witness) So that we can save a lot of time, you can tell us, as Mr. Freedman reads, whether there is anything in this statement which you think is different from

what you have told us now, and, if so, which you think is right. I don't know whether there is or not, but if you hear anything here that you either did not say or that you would like to correct, or anything like that, just interrupt and tell us as we go along.

[fol. 33] The Witness: Yes, sir.

The Court: Listen closely and see what he says.

By Mr. Freedman:

Q. Do you remember that question that I just propounded, that I just read to you, or would you like me to read it again?

A. Read it again.

Q. "Directing your attention to the incident described in prior testimony, will you start at about 9:30 on the night of November 18 and describe what transpired on the 'Arthur N. Herron' from then on?"

A. At about 9:30 was around when we picked up the scow and left the dredge. As we were underway, everything seemed to be under control. I usually make the rounds a few minutes of the hour, and I am done a few minutes after the hour, and I just completed the 10:00 o'clock round as we were surrounded by flames."

The Court: Is that right?

The Witness: Yes, sir.

The Court: That is what you said here.

By Mr. Freedman:

Q. "Q. Will you go ahead and describe in your own words what you actually did and saw from there on?"

A. Well, at first I thought I detected a different odor in the engine room—like you detect whether it is a hot air valve or whether it is a raw fuel leak or whether—see, we have an oil burner heater—or whether it was that, and it was a smell that was neither of the three, and I happened to glance out the porthole on the port side and I saw large flames—well, you couldn't see the top of it, and the next instant we was just surrounded with flames.

Will you go on? What happened after that?

"A. Well, we just didn't know what to do, and the captain, he came in and the captain and engineer were talking alongside the controls—the controls is on the starboard side, and the captain hollered to the engineer to stop the engine. He stopped it and in the meantime he hollered to close all hatches, and we done that and I went to the after end of the engine room and I just thought personally, this was it. I have a jacket hanging on a port hook and I usually tend the stern line—when I do I throw that jacket on when I have to go to tend the stern line. I put that jacket to my face and I heard the captain holler; 'kick her astern' and they kicked her astern—how long I couldn't say, and he hollered, 'Stop her', and I don't know who stopped her, but it got so thick in the engine room that you couldn't see. The only one I could see was Harrington, and he was practically touching me."

Is that correct so far?

A. Yes, sir.

Q. To the extent your testimony contradicts anything we say here, I will ask you stop me and modify it any way you see fit.

Will you do that please?

A. Yes.

[fol. 34] Q. So long as I read this without interruption from you, I will assume that you agree that what is said here is correct.

A. All right.

Mr. Byrne: Do you understand that, Mr. Bugoski?

The Witness: Yes, sir.

By Mr. Freedman:

Q. "Q. Who was Harrington?

A. He was a deckhand sir. And after he stopped the engine from going astern he hollered for everybody to jump overboard. I grabbed one lifejacket hanging overhead at the controls—it was afire, and I grabbed another one, and Harrington said: "Is there another one?" and I said: "Yes, there is one on the engineer's seat," and he grabbed it and it was afire, so on the way out of the after door on the starboard side of the engine room, as I was going out I

threw on the overboard pump switch, and I thought probably if I could get a little water I could do something, but there was very little pressure on the line, so I beat Harrington's jacket out with my hand, and it was still burning slightly, and I put the hose on it, but it didn't do much good. Then we started for the end of the tug, and as we were going by the cabin he said:

"Jack is in there", Jack, the cook, and I took it for granted he wasn't because you couldn't see nothing in there—it was full of smoke. I grabbed Harrington's arm, and I said: 'We better hit it,' and when we got to the stern—we have a hawser rack on the fantail, and the hawser on it was afire. We stood there a few seconds—Harrington was getting panicky, and I could hear the captain say: 'Jump', and there was still blue flames over the water there and Harrington didn't want to jump, and I give him a push and after he was clear I jumped in after him."

The Court: "behind him," it said.

Mr. Freedman: "jumped in behind him" Thank you, sir. "... jumped in behind him. We swam ashore to the Gulf dock and a Gulf man threw us a life ring out and assisted us up on the dock. After we got to the dock they took us in the—I presume a pump house and it had heat in it and that is where I saw the cook—that is Jack. After we took our clothes off one of the Gulf men gave me a pair of trousers and when the ambulance come they give us a blanket to throw around our shoulders, and they also gave us a cup of coffee while we were in the ambulance. Then they took us to the St. Agnes Hospital. We stayed at St. Agnes Hospital until 1 o'clock.

"Q. Is that 1 o'clock in the afternoon?

"A. No, sir, that is in the morning. Then we got a taxi and went over to the Camden plant.

"Q. When was the last time before the fire you saw the Chief Engineer?

"A. What and where was he? He was standing amidship. There are three doors in the engine room, he was standing in the center door and he was talking to the captain.

[fol. 35] "Q. That was the last time you saw him personally?

"A. Yes, sir.

"Q. When was the last time you saw Worrell, the deck-hand?

"A. The last time I saw him we were making up to the scow at the dredge there.

"Q. Are you familiar with the Schuylkill River?

"A. Pretty.

"Q. Will you indicate on that chart where you think you ran into the fire? (Recorder indicates U.S.C. and G.S. Chart No. 280) Here is the Schuylkill River here (indicating on chart)."

Mr. Freedman: At this point, would Your Honor like to see that chart?

The Court: Yes, all right.

Mr. Freedman: Here is a photostatic copy of it. You have a copy of it, Mr. Byrne.

Mr. Byrne: That is not the full chart. That is only a section of it.

Mr. Freedman: You and I agreed at the Coast Guard that we wouldn't have to subpoena the full chart.

The Court: He is not objecting to it. He is just calling that to my attention.

Mr. Freedman: Oh, I thought you were objecting.

Mr. Byrne: Slow down. I am pointing out to the Court that that is a photostatic copy of a section of the chart.

The Court: All right.

Mr. Byrne: Showing this immediate locality.

The Court: I understand.

Mr. Byrne: Would you like counsel to identify any points?

The Court: No. I see a bridge here that is under construction. That is what he is talking about.

Mr. Freedman: Then the witness examines the chart—

Mr. Byrne: If the Court please, I think I will object to this type of cross-examination of a witness. I have no objection at all if Mr. Freedman avers that there is any inconsistency in this statement, to his putting in the statement, or to his calling to the attention of the witness anything that he says is inconsistent, but this type of cross-examination I think is improper.

The Court: I think you are perfectly right. You didn't

object, so I didn't do anything about it. I think if you want to use a prior statement.—

Mr. Freedman: The only reason I didn't do it the other way was because I would have to go back and forth in connection with the various statements in order to contradict him.

The Court: I think Mr. Byrne is right, and it is a little hard to ask the witness to listen closely and call your attention to anything.

[fol. 36] Mr. Freedman: Very well.

The Court: I think you should call his attention to anything that you think is important—

Mr. Freedman: All right.

The Court: Or any inconsistencies.

Mr. Freedman: All right, sir.

The Court: Let me ask counsel this. There is a little circle marked here just above the line which is marked 54. Does everybody agree that that is where this thing occurred?

Mr. Byrne: That was the point that was identified by the witnesses in the Coast Guard proceeding as the place.

The Court: Is there any dispute that it was the place?

Mr. Byrne: No, I don't think it is completely accurate, but it is certainly right in that vicinity, yes, sir.

The Court: That is all we want to know.

May I ask one more question: Does this show the Atlantic Refining Company plant or yard or whatever you call it?

Mr. Byrne: Yes, it does.

Mr. Freedman: Do you mean the Atlantic Refining or Gulf?

The Court: I mean Gulf. That is the one that is the defendant, isn't it?

Mr. Byrne: Yes, sir.

The Court: Where is the Gulf?

Mr. Byrne: May we come to side bar and point it out, Your Honor?

The Court: Oh, yes.

(The following proceedings occurred at side bar:

Mr. Freedman: I have this chart. It is not the same chart.

The Court: That is all right.

Mr. Byrne: This is a chart that was supplied by Gulf, and which I agreed was correct.

Mr. Freedman: I got these in answer to interrogatories. This is the bridge (indicating).

Mr. Byrne: I think your bridge was complete at the date this chart was made.

The Court: I understand.

Mr. Byrne: That will give you the point.

Mr. Freedman: Here is about where it happened (indicating).

The Court: What is the W. Stack?

Mr. Byrne: That is a navigation landmark, and it is probably some stack or a boilerroom.

The Court: That would take it further down than he put it.

Mr. Freedman: This is a mark here. In the testimony later on, you will find that they will say it was opposite the Capta Barge.

[fol. 37] The Court: Is this the barge (indicating)?

Mr. Byrne: No, this is a barge that is tied to the Gulf docks and it is used as a pier or a dock.

Mr. Freedman: So that this is pretty closely correct.

The Court: Well, let's leave it here and you can go ahead with your examination.

Mr. Byrne: May I point out one thing, that the Gulf plant—this is the Schuylkill River (indicating).

The Court: It seems to extend from here to here (indicating).

Mr. Byrne: From here to below the bridge (indicating).

The Court: Yes, you can see it there.

All right, leave it here.

(End of side bar.)

By Mr. Freedman:

Q. Turning to page 35 in the Coast Guard proceedings, starting with Question 22:

"Q. This is the bridge here, and this is the upstream side (indicating). Were you near Mingo Creek?

"A. I think we were below that. They used to dump garbage scows there.

"Q. I don't know.

"A. Well, is that correct, below that?

"Q. That is the creek right there.

"A. Well, it was right abreast where they used to dump the city barge scows."

Mr. Byrne: You mean the garbage scows.

Mr. Freedman: The garbage scows.

Here is the part I wanted to get, and here is your answer to that, to that last question:

"The reason I remember, sir, is when I was on the deck I was shaking so bad I could hardly walk. It seems to me I saw the engineer and he was on the other side. He was in the water up to his waist, and I kept hollering to the other fellows, to a couple of the other fellows, and they told the tugboats to look for them."

Do you remember giving that testimony?

The Witness: Is that the deck or the dock? That was when we were pulled ashore.

The Court: Wait a minute. "That is when I was on the dock." Is that what you said?

The Witness: Yes, sir.

The Court: That is a mistake?

Mr. Freedman: What question is that?

Mr. Byrne: The one you just read.

[fol. 38] The Court: 25. He said, "The reason I remember is that when I was on the deck—" he said the word he used was "dock."

Mr. Freedman: It says "deck" here.

The Court: He said that the word he used was "dock."

By Mr. Freedman:

Q. You want to change the word "deck" to "dock"?

A. Dock, yes, sir.

The Court: I will allow you to make that change.

By Mr. Freedman:

Q. Other than that, is that statement correct?

A. Yes, sir.

Q. So that when you were on the dock, you say you saw the engineer in the water?

A. It seems to me that I saw him.

The Court: "It seems to me" is what he said. The other side; do you mean the other side of the river?

The Witness: Yes, sir.

The Court: Well, now, that statement is correct. I think you said today that you didn't remember seeing him after you were in the engine room.

The Witness: No, sir, I didn't, sir.

The Court: Why do you say "It seems to me that I saw him"?

The Witness: I probably seen an optical illusion, because it was dark and I was shaky and I was just in hopes that it was him.

The Court: And at the time did you think it was him?

The Witness: At the time I thought it was.

The Court: Yes. On thinking it over have you concluded that it wasn't him?

The Witness: Yes, sir.

Mr. Freedman: I didn't get that last part, sir.

The Court: He says on thinking it over he has concluded it was not the engineer that he saw.

By Mr. Freedman:

Q. Do you have any idea now who it might have been?

A. Probably an optical illusion. No, sir, I don't.

Q. Do you think now it was an optical illusion?

A. Probably it was.

Mr. Byrne: Mr. Freedman, would you read the next question and answer?

Mr. Freedman: Which one do you mean?

Mr. Byrne: Well, you read 25. I think 26 is an integral part of 25.

Mr. Freedman: As a matter of fact, that is what he said.

The Court: No, I think it is all right. I have it anyhow.
[fol. 39] Mr. Freedman: I was going to give it to him but the man answered exactly.

The Court: All right, I will ask him.
Then you went on to say:

"Q. You saw the engineer standing waist deep in water?

"A. It seems to me I did. I couldn't swear to it."

That is what you said, is it?

The Witness: Yes, sir.

By Mr. Freedman:

Q. Starting with Question 29, I think that starts a new thought:

"Q. Did you experience any rise in temperature at this time?"

I think perhaps I better go back, even though the others aren't too relevant. Starting with Question 27 at the bottom of Page 35:

"Q. You said immediately before the fire you noticed a new smell in the engine room?

"A. It was an odd smell, yes, sir.

"Q. Could you identify it as being in the line of something we know, any kind of oil?

"A. No, I know it wasn't the backfire of the oil burner, nothing of the engine room and no raw fuel leaks.

"Q. Did you experience any rise in temperature at this time?

"A. No, sir, not at that time.

"Q. And you also stated when you looked out the port side that is when you saw the fire all over the water?

"A. Yes, sir."

Is that correct?

A. Yes, sir.

By the Court:

Q. Did you notice this smell before you heard the rumbling sound, or was that afterward?

A. That was after, sir.

Q. You heard the sound first?

A. Yes, sir.

By Mr. Freedman:

Q. Question 36, near the bottom of Page 36:

"Q. After you left the dredge you didn't come up again, you stayed in the engine room?"

"A. Yes, sir."

Is that correct?

A. That's right, until my round was completed.

Q. That was until the time of the fire, is that right?

A. No, sir, until my round was completed.

Q. Did you come out of the engine room?

A. Not out of the engine room, come up in the upper engine room.

[fol. 40] Q. It is all part of the engine room, isn't it?

A. Yes, sir.

Q. Question 41 on Page 37:

"Q. When you got up on deck could you smell any distinctive odor in the smoke?"

"A. Sir, I was so excited I couldn't tell.

"Q. When you jumped over the side was there any signs of oil on the water when you jumped over?"

"A. I don't remember."

Do you remember giving that testimony?

A. Yes, I do.

Q. "Q. When you jumped over the side did you notice any taste of oil to the water or did you get any oil in your eyes or nose?"

"A. I swallowed a little water when I jumped overboard."

"Q. Was it like oil or gasoline?"

"A. I couldn't tell you that.

"Q. It was oil?"

"A. It had an oily taste—it was a long ways from drinking water."

Mr. Byrne: If the Court please, what is the question?

The Court: I don't know. He is just asking him whether that is what he testified to.

Mr. Freedman: These questions in substantial measure conflict with what the witness has stated from the witness stand today, as Your Honor will see particularly when the entire pictures unfolds here.

The Court: I will allow you to go ahead.

Mr. Byrne: If the Court please, it is part of my same objection. I have no objection to Mr. Freedman cross-examining the witness, as I described before, pointing out inconsistencies. Now, if there is something inconsistent in that last three questions or four questions that were read, then I think it up to Mr. Freedman to—

The Court: Well, I can only accept his statement that he is going to show that it is part of an inconsistency. You can't take just every single question and—

Mr. Byrne: Well, this witness as I recall was asked no questions and gave no testimony about that point on direct. Now, is he trying to show conflict between testimony or direct examination?

The Court: It may, I don't know. I will have to take it and see whether it does or not.

By Mr. Freedman:

Q. Question 47 at the bottom of Page 37:

"Q. To what do you attribute the failure of your water pump?

"A. Well, sir, probably the generator was shorted out when the steering control of the pilot house caught afire, and the lights were getting real dim.

"Q. Were the lights"—

[fol. 41]. Mr. Byrne: Wait a minute. Excuse me, go ahead.

Mr. Freedman: Anything wrong, Mr. Byrne?

Mr. Byrne: Well, I want you to ask the man a question if you are alleging inconsistency.

Mr. Freedman: You want me to ask the man a question.

Mr. Byrne: Yes, sir.

Mr. Freedman: I am going to ask him a lot of questions.

By Mr. Freedman:

Q. Question 48:

"Q. Were the lights still on when you went off the stern?

"A. I couldn't say, sir."

Do you remember that?

A. That's right.

Q. Do you remember testifying here before that the lights were off when you went off the stern?

A. That's right, because the motor conked out.

Q. Will you keep your voice up, please?

A. Sir?

Q. Will you keep your voice up?

A. When the motor stopped, when the generator, the auxiliary generator stopped, the lights went out and they were going out on our way out.

Q. Then you contradict what you said to the Coast Guard?

Mr. Byrne: I object to that question.

The Court: It is cross-examination.

Mr. Byrne: But that is not a contradiction and I object to Mr. Freedman's use of that word.

Mr. Freedman: What is not a contradiction?

Mr. Byrne: Now, Mr. Freedman,—

The Court: Well, the witness can take care of himself. I am sure.

Mr. Freedman: I am giving him a chance to explain it now.

By Mr. Freedman:

Q. Now, this Question 47 that I read to you, I will give you an opportunity to explain that if you want. You said that the generator was shorted and the lights were getting real dim, and then the next question you were asked specifically:

"Were the lights still on when you went over the stern?"

And you said:

"I couldn't say, sir."

Was that correct?

A. Well, we couldn't see when we was off the stern. They were out before we went out to the outer deck.

Q. Are you saying now that the lights were out?

A. They were going out.

[fol. 42] Q. They were going out? When you went over the stern?

A. I couldn't say that.

Q. Then you don't know whether the lights were on or off when you went over the stern?

A. I took it for granted when the engines stopped the lights went out.

Q. You can't say whether the lights were on or off, isn't that correct?

Mr. Byrne: That is—

By Mr. Freedman:

Q. Isn't that correct?

A. That's right.

Q. So that when you testified before that the lights were out—

A. Pardon me. When your generator—

Q. Please let me finish my question.

Mr. Byrne: Wait a minute, let the witness answer please. Go ahead, Mr. Bugoski.

The Court: Yes, I will let him answer. What were you going to say?

A. When your auxiliary generator stops, sir, your lights automatically go out.

The Court: I understand that. Now, what Mr. Freedman wants to know is whether you remember exactly when the automatic auxiliary generator stopped. Was it before you went over the stern?

The Witness: Yes, sir.

The Court: It was. Was it long before that? Was it while you were in the engine room?

The Witness: As we was leaving the engine room I heard it conk out.

The Court: You heard it conk out and that is when the lights stopped?

The Witness: They go out automatically, yes, sir.

The Court: So that when you went over the stern there were no lights on the ship?

The Witness: Yes, sir.

By Mr. Freedman:

Q. So that what you said before the Coast Guard was not correct, is that right?

A. Possibly.

Q. Well, it is either correct or it isn't correct. Which is it?

A. Well, it is not correct.

The Court: No, it is not correct. He says now that he can't say—he said he couldn't say, but now he can say because he knows the generator went off.

Mr. Freedman: I just wanted to make that clear.

[fol. 43] The Court: Yes, that is perfectly clear.

Well, I am going to recess for ten minutes, gentlemen:

(Recess, 3:25 to 3:45 o'clock p.m.)

(Discussion off the record.)

Mr. Freedman: May I proceed now, sir?

The Court: Go ahead, please.

By Mr. Freedman:

Q. Reading from Page 37, at the very bottom, Question 45, you were asked this question, Mr. Bugoski, and you gave the following answer.

Q. Were the lights still on when you left the engine room?

A. It was so full smoke if they were you couldn't see."

Did you give that answer?

A. That's right, sir.

The Court: What page is that?

Mr. Freedman: Page 37, the last question.

The Court: Oh, yes.

By Mr. Freedman:

Q. Do you want to correct that statement?

A. Well, when your auxiliary generator goes out your lights automatically go out.

Q. I am glad you brought that up, Mr. Bugoski. Did you say anything at all in the Coast Guard proceedings about the auxiliary generator?

A. If I remember I did mention it.

Q. Well, may I hand you your testimony? Or I will ask Mr. Byrne—

The Court: Yes, he said in Question 47:

"Q. To what do you attribute the failure of your water pump?

"A. Well, sir, probably the generator was shorted out when the steering control of the pilot house caught afire."

He did mention the generator at any rate.

Mr. Freedman: The auxiliary?

By the Court:

Q. Is that the auxiliary that I am talking about?

A. Yes, sir.

Mr. Freedman: He is talking about the auxiliary.

The Court: Yes.

By the Court:

Q. Was this the auxiliary that you meant in Question 47 here?

[fol. 44] A. Yes, sir, that is what it was, the auxiliary generator.

Q. You were talking about it before the Coast Guard?

A. Yes, sir.

The Court: That is what he says, he did mention it.

Mr. Freedman: I don't know whether he means the auxiliary there or not.

The Court: "Well, sir, probably the generator was shorted out when the steering control of the pilot house caught afire and the lights were getting real dim."

So I guess it was.

Mr. Freedman: All right, I can argue this in the record later, sir, once I get into the record.

The Court: Oh, yes. I am not as familiar as you are with it.

By Mr. Freedman:

Q. Do you think that elsewhere you told the Coast Guard you made specific mention about the auxiliary generator?

Mr. Byrne: Objection.

The Court: No, I will overrule the objection.

A. Well, that I don't remember.

By Mr. Freedman:

Q. As a matter of fact, you never used the word "auxiliary" in your testimony before the Coast Guard, did you?

Mr. Byrne: Objection, sir. That is not fair cross-examination.

The Court: Yes, it is.

A. I don't remember whether I did or not.

By Mr. Freedman:

Q. Would you like to examine the record?

The Court: Well, you can examine—

Mr. Freedman: I did. I can't find any. I will ask Mr. Byrne.

The Court: I can examine it.

Mr. Byrne: I don't know whether he used it or not.

Mr. Freedman: I am sure you must have examined it before you came in here, and, if not, I will be very happy to wait until you do get a chance to examine it to see whether he used it.

The Court: Oh, no; I don't want to wait that long.

Mr. Freedman: The point is I have examined it and—

Mr. Byrne: What is the difference? The man calls it

an auxiliary generator or a generator. Now, why don't you—

Mr. Freedman: There is a big difference between an auxiliary generator and a generator.

[fol. 45] Mr. Byrne: Well, then, ask the witness what it is.

The Court: Let me try to find out.

By the Court:

Q. Were there two generators on the boat?

A. Sir, we have a tail shaft generator. When your main engine is stopped it automatically kicks into your auxiliary and your auxiliary is running at all times for the steering gear and for your lights.

Q. What did you call the first generator? What was the word you used?

A. Tail shaft generator.

The Court: All right.

By Mr. Freedman:

Q. What generator were you talking about when you answered—I will give you the question and your answer:

Q. To what do you attribute the failure of your water pump?

A. Well, sir, probably the generator was shorted out when the steering control of the pilot house caught afire and the lights were getting real dim."

What generator were you talking about there?

A. That was probably the auxiliary generator because the big engine was stopped.

Q. You had reference to the auxiliary here?

A. Yes, sir.

Q. Why didn't you use the word auxiliary?

Mr. Byrne: Objected to.

Q. There is more than one generator, isn't there?

The Court: I will overrule the objection.

A. Pardon?

Mr. Freedman: Will you repeat my question?

(The question was read by the reporter as follows:)

"Q. Why didn't use the word auxiliary?"

A. Probably I didn't think of it at that time.

By Mr. Freedman:

Q. All right. At the bottom of Page 39 and the top of Page 40 you were asked this question:

"Q. You mentioned that the pilot house control apparently went out and the lights got dim. When did this take place?"

And you answered:

"Just before the fire, when the heat got us. The control is in the engine room and every time touch it it makes noise and I took it for granted the control box shorted and she was just running back and forth."

A. That's right, sir.

Q. Was that testimony correct?

A. That's right, sir.

[Vol. 46] Q. Mr. Bugoski, in what order--well strike it out for the moment.

You were in the engine room before the fire started, were you not?

A. Yes, sir.

Q. Did I understand you to say that the engineer was with you in the engine room when this started, or was he outside?

A. When the fire started?

Q. When the fire started.

A. He was at the controls before the fire started.

Q. In the engine room?

A. Yes, sir.

By Mr. Freedman:

Q. Now, after the fire started, someone else came into the engineroom; is that right?

A. Yes, sir.

Q. Who was it?

A. Right after the fire started, why the Captain come in and so did Harrington.

Q. So there were at least four that you know of in the engineroom?

A. I didn't see the engineer.

Q. You saw him before the fire started?

A. Yes, sir.

Q. Did you see him go out?

A. No, sir.

Q. Did you see him respond to any of the orders of the Captain?

A. Yes, sir. We stopped the engine from going ahead.

Q. You heard the Captain give that order?

A. Yes, sir.

Q. Was that his first order, to stop the engines?

A. The first order was to close the hatch, stop the engines?

Q. Who closed the hatches?

A. I closed some. We probably all closed some.

Q. By the hatches, you mean what?

A. The windows, the doors.

Q. Was there an overhead skylight, too?

A. Yes, sir.

Q. Did you close that?

A. No, sir.

Q. Was that still open?

A. I presume it was.

Q. Was that where the smoke was coming in from?

A. Yes, sir.

[fol. 47] Q. Now, the next order was what, after he gave the order to close the hatches, what was the next order?

A. By the way, before you answer that, how long did it take you to close those hatches?

A. A matter of seconds.

Q. What was the next order, to stop the engines?

A. Stop the engines. That was after he closed the engines and kicked her astern.

Q. Who executed that order, the engineer?

A. I presume it was the engineer.

Q. Did you see him?

A. No, sir.

Q. Did you see who executed the order?

A. I can distinguish his voice.

Q. You could distinguish whose voice?

A. The captain's voice.

Q. Well, you mean you heard him give the order?

A. Yes, sir.

Q. But could you see who executed the order?

A. No, sir.

Q. So that you don't know who actually stopped the engines?

A. No, sir.

Q. But you do know that the engineer was there at the time?

A. When I heard the Captain give the order, give the engineer the orders to stop it, I heard the engines stop.

Q. The next order was what, reverse?

A. After we closed the hatches, yes, sir.

Q. Let me get it straight. Did you close the hatches before the order to stop the engines or after?

A. After the engines were stopped from going ahead, we heard the order to close the hatches.

Q. I see. And then the next order was to reverse?

A. Yes, sir.

Q. Who carried out that order?

A. I took it for granted that the engine did.

Q. When you say you took it for granted, by that do you mean you couldn't see because of the smoke in the engine-room?

A. Yes, sir.

Q. How far away were you from the controls?

A. I would say about eight feet.

Q. You were standing with Harrington?

A. Yes, sir.

Q. On the after end?

[fol. 48] A. Yes, sir.

Q. And the Captain was at the controls with the engineer when you last saw him.

A. No, sir, the last I saw the Captain he was on that little bridge.

Q. Back after with you?

A. Yes, sir.

Q. And the last you saw the engineer was when he was standing at the controls?

A. Yes, sir, before the fire.

Q. All right, now, so that you assumed that it was the engineer who reversed the engines after the Captain's order; is that correct?

A. Yes, sir.

Q. What was the next order?

A. To abandon ship.

Q. Abandon.

Was there another order to stop?

A. Yes, and then it was to abandon ship.

Q. Who gave you that order?

A. The captain did. There was no response.

Q. What do you mean, there was no response?

A. The engineer didn't stop at his order.

Q. Sir?

A. The engines didn't stop at the Captain's order, so he pulled the lever.

Q. You mean he went forward to the controls and pulled them himself?

A. All he had to do was to take one step and pull the lever.

Q. Did you see him?

A. No, sir.

Q. You don't know who actually did pull the lever?

A. No, sir.

Q. Following that, what was the next order.

A. To abandon ship.

Q. Who gave it?

A. The captain.

Q. Who was the first man out of the engineroom?

A. That I couldn't say.

Q. When did the Captain leave?

A. As soon as he gave the order.

Q. He left the engineroom as soon as he gave the order?

A. Yes.

Q. He left ahead of you, didn't he?

A. Yes, sir.

Q. And he left ahead of Harrington that you saw?

A. I was the last one out.

[fol. 49] Q. Harrington was the last one out?

A. I was.

Q. Are you sure about that?

A. The last one out of the ship?

Q. Out of the engineroom.

A. I stepped out, and Harrington was right behind me.

Q. Harrington was the last man out of the engineroom?

A. Yes.

Q. Do you know?

A. Yes.

Q. How about Mylan, the engineer?

A. I don't know.

Q. Did the Captain say anything about him having fallen down?

A. I didn't hear it.

Q. Was any search made when the engineer didn't respond to the last order?

A. No, sir.

Q. Did the Captain ask anybody to look around for him?

A. No, sir, not to my knowledge. I didn't hear any.

Q. After he gave the order to abandon ship, did he give any other orders?

A. Not that I know of.

Q. Did he say anything other than giving the orders while you were in the engineroom?

A. No, sir.

Q. He was standing right alongside of you on the after end of the engineroom?

A. He was standing on the bridge.

Q. You heard all of the orders he gave?

A. Yes, sir.

Q. He did not say anything other than those orders you repeated here in the courtroom today?

A. I haven't heard.

Q. If he had, you would have heard, wouldn't you?

A. Yes, sir.

Q. Sir?

A. Yes, I would.

Q. I think you did say finally that Harrington came out of the engineroom after you, did you not?

A. Yes, sir.

Q. I think you did say that the Captain left before you, and as soon as he gave the order to abandon, he left the engineroom?

[fol. 50] A. Yes, sir.

Q. Mr. Bugoski, was there any water coming out of the hose when you attempted to put the fire out in the life-jacket that Harrington had gotten?

A. No, sir.

Q. Let me read to you a question and answer from the Coast Guard record and ask you whether this doesn't refresh your recollection.

Mr. Byrne: Will you identify it?

Mr. Freedman: It is Question No. 103, page 42, about half way up from the bottom.

By Mr. Freedman:

Q: Here is the question:

"Q. After you left the engineroom I believe you said you beat out the flames on Harrington's lifejacket and attempted to use the steam which was coming out of the fire hose to extinguish the flames; is that right?

"A. Yes."

A. Yes, that was just a squirt that was back pressure on the hose.

Q. But there was water coming out.

A. Just a squirt.

Q. There was a stream coming out, wasn't there?

Mr. Byrne: I object to the question.

The Court: I will overrule the objection.

By Mr. Freedman:

Q. There was a stream coming out, wasn't there?

A. I wouldn't call that a stream.

Q. They called it a stream here, and you didn't correct it at the Coast Guard, did you?

A. No, sir, I didn't.

Q. Why didn't you correct it there?

A. I probably didn't think of it at the time.

Q. I see. Now, when you got to the stern, I think you testified after you left the engineroom you passed the cabin where the cook was located, and you went to the stern. When you got to the stern, do you know where the Captain was?

A. I took for granted he was amidstream. I heard him yell "Jump."

Q. You mean he had gone overboard?

A. Yes, sir.

Q. He had gone overboard before you got to the stern?

A. Yes, sir, when we got to the stern, there was no one there.

Q. You heard him from a distance yell "Jump"?

A. Yes, sir.

[fol. 51] The Court: Why did you go to the stern to jump, rather than jump from where you were?

The Witness: It wasn't as hot at the stern as it was at the bow, sir.

By Mr. Freedman:

Q. As a matter of fact, there was practically no fire on the stern?

A. The fire was—the hawser was burning.

Q. The hawser wouldn't affect you, would it?

A. In what way?

Mr. Freedman: Have we got those pictures here?

The Court: Do you mean the fire in the water or on the ship?

Mr. Freedman: On the ship.

By Mr. Freedman:

Q. In fact, you weren't burned at all in this fire, were you?

A. No, I wasn't; fortunately.

Q. You came out of the engineroom on deck, came past this fire, went to the stern, went in the water, and you weren't burned at all, were you?

A. That's right.

The Court: When you said that it wasn't as hot at the stern, did you mean the fire on the ship or the fire in the water?

The Witness: The fire on the ship, sir.

The Court: All right.

By Mr. Freedman:

Q. The only thing burned on the stern, I think you said, was the hawser?

A. From what I could see, yes, sir.

Q. That was at the extreme stern, way over to the side; is that correct?

A. Yes, sir.

Q. May I see those pictures, sir?

A. Yes.

Q. I direct your attention, Mr. Bugoski, to petitioner's exhibit 5, and I ask you whether you can identify the hawser on the stern of the tugboat?

A. It has been moved.

Q. It has been moved?

A. That hawser that lays on the stern is coiled in rotation. It doesn't tangle up.

Q. Can you see the hawser on the stern?

A. In the picture?

Q. In that picture.

The Court: Is there anything there that indicates the hawser on the stern?

[fol. 52] The Witness: Sir, that could be part of it, but the hawser is over the fantail.

The Court: Which is the fantail?

The Witness: This board that covers up your rudder. That is the steering mechanism.

Mr. Byrne: So that I understand, do you mean inside the rail of this P-5, Mr. Bugoski?

The Witness: Right on that little grating.

Mr. Freedman: I will mark it.

By Mr. Freedman:

Q. Now, will you please mark with an H where the hawser is located, please, with this pencil?

A. (Marking.)

Q. How about over here (indicating); is that part of the hawser?

A. I don't know what it is, sir. If that is a hawser—probably somebody put that there after, but the hawser has probably been torn down and threw down on the lower deck, I presume. It is really coiled up.

Q. Are you suggesting that someone put some equipment on the vessel following the fire?

A. Well, some lines burned, I presume, and they had to bring lines to tie it up.

Q. Don't make assumptions. I am asking you to testify of your own knowledge.

(Mr. Byrne: Mr. Freedman, your question required an assumption.

Mr. Freedman: On what?

Mr. Byrne: You said are you presuming—

Mr. Freedman: I violently disagree with that.

Mr. Byrne: What was your question?

Mr. Freedman: My questions are all intended to elicit facts, and not assumptions.

Mr. Byrne: Well, you listen to the question.

The Court: Will you read the question again?

(The last question was read by the reporter.)

The Court: Answer the question, will you?

The Witness: Sir, I can't say to what happened there.

The Court: All right.

By Mr. Freedman:

Q. While you were in the engineroom, did the Captain send any message to Worrell in the pilot house?

A. Ever what?

Q. Did the Captain send any message to Worrell in the pilot house?

A. To Worrell?

Q. Yes.

[fol. 53] A. Couldn't get to him, sir. It was too hot.

Q. How about the speaking tube?

A. No, he didn't, no, through the speaking tube.

Q. He didn't talk to him through the speaking tube at all?

A. Not that I know of.

Q. You were there, weren't you?

A. Yes, sir, but there was so much confusion you couldn't check every move.

Q. You mean the captain was all confused, too?

Mr. Byrne: I object to that.

The Court: That is all right. Let him answer.

A. We were all confused, sir, to a certain extent.

By Mr. Freedman:

Q. Did you check the fire extinguishers?

A. No, sir, I didn't.

Q. Sir?

A. There was no time to monkey with fire extinguishers.

Q. You never checked the fire extinguishers at any time?

A. The port engineer checks them, sir.

Q. Did you check them?

A. No, sir.

Q. When did the port engineer check them?

A. He checks them at different intervals.

Q. Were you there when he checked them?

A. No, I wasn't on watch.

Q. Then you can't say that he did check them?

A. No, sir.

Q. What you stated a moment ago is not from personal knowledge?

A. No, sir—yes, sir.

Mr. Freedman: I move that that statement be stricken from the record, sir, his prior testimony regarding what the port engineer did.

The Court: I won't strike it, but I will consider it a fact that he says he doesn't know.

You didn't see him do it?

The Witness: No, sir, I didn't.

By Mr. Freedman:

Q. Do you have any certificate from the Coast Guard, Mr. Bugoski?

A. Yes, sir, I have. I had it since the fire, though.

Q. What kind of a certificate have you got?

A. A tankerman's ticket.

Q. A tankerman's ticket?

A. Yes, sir.

Q. In order to get that ticket, you have to have an examination?

[fol. 54] A. Yes, sir.

Q. By the Coast Guard?

A. Yes, sir.

Q. Did you have such a ticket at the time of this fire?

A. No, sir.

Q. When did you get this ticket?

A. After I got the new job at Patterson.

Q. When was that, please?

A. Three years ago.

Q. Did Patterson require you to get it?

A. Yes, sir.

Q. Patterson is a—

Mr. Byrne: I object.

By Mr. Freedman:

Q. Do you do the same work at Patterson—

Mr. Byrne: Just a minute.

Mr. Freedman: I will withdraw the question. There is nothing to object to.

By Mr. Freedman:

Q. Do you do the same work for Patterson that you did for the American Dredging Company?

Mr. Byrne: Objected to.

The Court: I will overrule the objection.

A. No, sir.

By Mr. Freedman:

Q. What kind of work do you do now?

A. Pumper.

Q. Pumper?

A. Yes, sir.

Q. Do they have oilers on the same vessels with you?

A. No, sir.

Q. Do you do the oiling?

A. There is no oiling to be done, sir.

Q. There is no oiler work?

A. No, sir.

Q. Who takes care of the gauges?

A. The gauger.

Q. Is he certificated, too?

A. Yes, sir.

Q. What kind of a vessel are you working on now?

A. Oil barge.

Q. Oil barge?

[fol. 55] A. Yes, sir.

Q. As a pumper, you take care of the machinery and pumps?

Mr. Byrne: That is objected to.

The Court: I will overrule the objection.

A. Yes, sir.

Q. And on the "Herron" didn't you have to take care of the pumps and machinery?

A. To a certain extent, yes, sir.

Q. Wasn't that part of your job?

A. That's right, it was.

Mr. Freedman: That is all, sir.

The Court: Anything further, Mr. Byrne?

Mr. Byrne: I think I have a couple of questions.

Redirect examination.

By Mr. Byrne:

Q. Mr. Bugoski, I am going to take you back to the time when Mr. Freedman read this question and answer to you—

Mr. Freedman: What page?

Mr. Byrne: Page 35, Mr. Freedman. There are actually three questions and answers that are needed to make the context clear—no, there are four of them; 22, 23, 24 and 25.

By Mr. Byrne:

Q. This was read to you by Mr. Freedman:

"Q. This is the bridge here, and this is the upstream side (indicating). Were you near Mingo Creek?"

"A. I think we was below that; they use to dump garbage scows there."

"Q. I don't know."

"A. Well, is that correct below that?"

"Q. There is the creek right there?"

"A. Well, it was right abreast where they use to dump the city garbage scows."

"Q. O.K."

Mr. Freedman: What is this now?

Mr. Byrne: The question was:

"O.K."

Mr. Freedman: All right.

By Mr. Byrne:

Q. And then your answer:

"A. The reason I remember sir, is that when I was on the deck—" or dock—I was shaking—"

Mr. Freedman: Are you reading? Here it says "deck." If you are reading, I am going to insist that you read correctly. It was "deck"; the witness said he meant "dock." I, you are going to read it, read it the way it reads there:

Mr. Byrne: Are you objecting—

Mr. Freedman: Yes, sir, I am.

Mr. Byrne: —or are you telling me—

The Court: I will overrule the objection.

Go ahead and read it the way the witness intended it to be.

By Mr. Byrne:

Q. And your answer was:

"The reason I remember, sir, is that when I was on the dock I was shaking so bad I could hardly walk. It seems to me I saw the engineer and he was on the other side—"

That is what I want to direct your attention to.

"He was on the other side" is in your testimony. The time you gave that testimony; whether you saw the engineer or not, what did you mean by "the other side"? The other side of what?

A. The other side from where we were. We were on the Philadelphia side, and this was on the Chester side.

Q. You mean of the Schuylkill River?

A. Yes, sir.

Q. That would be quite some little distance away; is that correct?

A. That's right, sir.

○ The Court: Is there any question—let me get the location of this mark that you have on the chart. You have the bridge. Here it says "I think we were below that."

"Does that mean the Mingo Creek?"

"That's right. This is the bridge here. This is the upstream side (indicating). Were you near the Mingo Creek?"

"I think we were below that."

Actually this mark is above Mingo Creek, isn't it, on the chart?

Mr. Byrne: I don't know, sir.

Mr. Freedman: Off the record, your Honor.

(Discussion off the record.)

Q. Mr. Bugoski, where on the tug were you from the time that the tug left the dredge "Baltic" until you went out on the deck from the engine room after the fire or while the fire was still in progress?

Mr. Freedman: Will you repeat that question, please?

(The last question was read by the reporter.)

A. I was in the engine room.

The Court: All the time?

The Witness: Yes, sir.

[fol. 57] By Mr. Byrne:

Q. Now, Mr. Bugoski, in some of the testimony that Mr. Freedman read to you from the Coast Guard hearing, Question No. 8 on Page 36, I will read you the question and so much of the answer as I wish to direct your attention to:

"Q. Will you go ahead and describe in your own words what you actually did and"—

Mr. Freedman: What question, Mr. Byrne?

Mr. Byrne: 8.

Mr. Freedman: On 36?

Mr. Byrne: 33.

The Court: You said 36.

Mr. Byrne: I beg your pardon. If I did it was a slip of the tongue.

The Court: You certainly did.

By Mr. Byrne:

Q. The question reads:

"Q. Will you go ahead and describe in your own words what you actually did and saw from there on?"

Now, just before that your last words had been "surrounded by flame."

Then you go on:

"Well, at first I thought I detected a different odor in the engine room."

Now, when did you detect this different odor in the engine room with respect to the time that the fire started?

The Court: In other words, what did you mean by "at first"? When was it that you—

A. Well, that was probably just before I heard this rumbling noise that it seemed I detected a different odor than what you usually get in the engine room.

By Mr. Byrne:

Q. Now, so the record will be clear, Mr. Bugoski, you have referred in your testimony to an auxiliary generator. What operated the auxiliary generator?

A. A 4-cylinder Chrysler Diesel.

Q. A 4-cylinder Chrysler Diesel engine.

Is that the same or different than the Diesel engine which drove the main shaft of the tug?

A. Yes, sir.

The Court: Which is it, the same engine or a different engine?

The Witness: A different engine, sir.

Mr. Byrne: Different.

By Mr. Byrne:

Q. Let's go back to the time you left the dredge "Baltic."

A. Yes, sir.

Q. And was it a direct connection to the generator or was there some sort of an automatic switch that cut in when the tail shaft stopped?

[fol. 58] A. There is an automatic switch that kicks in when your engine—your big engine has to go a certain speed before it will kick in.

Q. I see. But the Chrysler Diesel was operating at all times?

A. Yes, sir.

Q. Now, Mr. Bugoski, as I understand this engine room, or correct me, you have referred to two levels in this engine room. Is that right?

A. Yes, sir.

Q. Now, are they two separate floors that are sealed off like the two floors in a house?

The Court: Oh, the pictures show that very clearly. I don't think you need go into that.

Mr. Byrne: All you have to do is look at them.

By Mr. Byrne:

Q. They are really one room with two levels, is that correct?

A. Yes, sir.

The Court: It is really wrong to call it two levels. It is sort of a platform.

By Mr. Byrne:

Q. Mr. Bugoski, this photograph P-1, can you tell us what portion of the engine room that shows?

A. That is the forward upper engine room.

Q. Forward upper engine room?

A. Yes, sir.

Q. Now, does the control panel show on that?

A. No, sir.

Q. There were four people in the engine room, as I understand your testimony today. Were any of them in the upper forward portion of the engine room as shown by that photograph at the last time you saw them in the engine room before you left them?

A. No, sir.

Q. No?

A. They were all astern.

Q. They were all in the stern?

A. Of the upper engine room.

Q. Of the upper engine room. Now, was there anyone to your knowledge in the lower engine room?

A. No, sir.

Q. I show you Photographs P-10, P-11 and P-16 and ask you if any of them show the—I think the word you used was the controls.—

A. Yes, sir.

Q. —where Mr. Milan was, as you described in your testimony. Do any of them show the controls?

[fol. 59] A. Yes, sir, these two right here.

Q. These two.

Mr. Freedman: Wait a minute.

A: It was looking from the forward end aft.

Q. Now, on P-10 the witness says it is looking from the forward end aft and shows the control.

A. Yes, sir (indicating):

The Court: Let's see it.

Mr. Freedman: Can we mark that?

Mr. Byrne: Two high levers, Judge Kirkpatrick.

The Court? Yes, I will mark them with a circle around them.

Mr. Byrne: The witness hands counsel——

Mr. Freedman: With an inverted "I".

Mr. Byrne: The witness hands counsel P-16 and says this one shows them better and points (indicating).

The Court: I will mark them. Right here; one there and one there.

Mr. Freedman: Yes.

For the record, judge, may we say that the controls in both P-10 and 11 are marked with an inverted "U".

The Court: Yes, in red pigment. You can't call it pencil and you can't call it ink.

By Mr. Byrne:

Q. Now, can you point to any of these three photographs, P-10, 11 or 16, and locate the various men who were in the engine room as you recall them the last time you saw them before you left the engine room?

A. Sir, we were right here by this engineer's desk.

Mr. Byrne: The witness says, "Sir, we were right here by this engineer's desk," and he points to that.

The Court: All right, I will mark it with a "D" engineer's desk, right there by "D". All right.

Mr. Byrne: The Court has marked the letter "D" on Exhibit P-10.

By Mr. Byrne:

Q. When you say, "We were right there," Mr. Bugoski, who was "we"?

A. I speak for Harrington and myself.

Q. You and Harrington. Now, can you point out to the Court where Mr. Milan was the last time you saw him?

A. Well, sir, right here is a doorway (indicating).

Q. The witness points to——

The Court: I will mark it.

By Mr. Byrne:

Q. —the left of a——

A. Right abreast the controls.

[fol. 60] Q. —barrel that appears on the—

The Court: Here is the doorway. Now, where was Milan?

The Witness: Standing right inside the doorway, the last I seen him, talking to the captain.

The Court: I will mark it "M." It is really off the picture

Mr. Byrne: In other words, it is off the picture, it doesn't show on that exhibit.

The Court: It is pretty close, though, isn't it?

By Mr. Byrne:

Q. It is through a doorway, Mr. Bugoski?

The Court: Would that be about right (indicating)?

The Witness: Yes, sir.

By Mr. Byrne:

Q. Through a doorway, is that right?

A. Yes, sir.

Mr. Freedman: For the record, we are now talking about P-10?

The Court: Yes.

Mr. Freedman: And "D" is also on P-10.

The Court: Yes, that is the desk.

By Mr. Byrne:

Q. Now, the one man in the engine room who is unaccounted for is you—no,—

The Court: Taylor.

Q. Is Mr. Taylor.

A. Yes, sir.

Q. Can you tell us where he was the last time you saw him before you left—

A. The judge marked this point right here on the bridge.

Mr. Freedman: "D."

The Court: That is that line.

The Witness: This line here (indicating).

The Court: It is the red line. He says his feet were down below and——

The Witness: A little bridge that we have across the main engine.

Mr. Byrne: I see.

The Court: Let me see. Oh, I think I am getting it.

Just for my information, what is this? Is that the grating that you talked about?

The Witness: Yes, sir.

The Court: That is the floor of the upper engine room?

The Witness: But that is a solid grating. This here is like a fencing, sir.

[fol. 61]. The Court: Where he was standing?

The Witness: Yes, sir.

Mr. Freedman: Isn't that a little higher here?

The Witness: Yes, sir, it is a step up.

The Court: A step up?

The Witness: Yes, sir.

The Court: In other words, the part of the grating the captain was standing on was a step up.

The Witness: Yes, sir.

The Court: And all this goes down below into the lower engine room.

The Witness: The lower engine room, that is right.

The Court: Now, at last I have it. There was kind of a broad shelf around the wall of the engine room and that made the upper room, is that it?

The Witness: Well, you see the edge of the engines stick up over the lower deck.

The Court: Yes, that is right, like a shelf running around the engine room, two sides of it, anyhow.

The Witness: Yes, sir.

Mr. Byrne: If the Court please, would you care to examine this in its present condition? I do not believe there have been any major structural changes in the engine room.

The Court: I may have to, I don't know. I will see how it develops. I may have to.

Mr. Byrne: We would be very glad to have you do so.

Mr. Freedman: I think it might be a good idea.

The Court: I think it just dawned on me. It was awfully

hard to get it from the pictures, but I see now what it is. I don't know, it may not be necessary.

Mr. Byrne: I have no other questions of the witness.

(Discussion off the record.)

The Court: Are you through, everybody?

Mr. Byrne: Yes, sir.

The Court: I won't call any more witnesses.

Mr. Freedman: Just one second, if Your Honor please. May I have Your Honor's indulgence for just one minute, please.

Recross examination.

By Mr. Freedman:

Q. Mr. Bugoski, directing your attention to the odor that you say you noticed immediately prior to the flash or explosion, as it has been called,—

The Court: He said immediately prior to the rumble.
[fol. 62] Mr. Freedman: The rumbling, whatever it was.

The Court: And he has not at any time called it an explosion.

Mr. Freedman: Well, it doesn't make any difference, but it is in there.

The Court: Maybe so.

Mr. Freedman: It makes no difference to me.

The Court: Well, I am just pointing that out.

By Mr. Freedman:

Q. What I am after is the odor which you detected prior to that rumbling, as you characterize it, did you smell that same odor at any time prior to that time, like coming up the river or while you were in the engine room prior to that time?

A. No, sir, I didn't.

By the Court:

Q. On any other day?

A. No, sir.

Q. It was a new odor entirely?

A. Yes, sir.

By Mr. Freedman:

Q. You never smelled that odor before?

A. No, sir.

[fol. 63] WILLIAM STOLTZ, having been duly sworn, was examined and testified as follows:

Direct examination.

By Mr. Byrne:

Q. Lieutenant, you are an Assistant Fire Marshal in the City of Philadelphia?

A. Would your mind speaking a little louder?

Q. Yes, certainly.

The Court: Why don't you stand up a little closer, then he will hear you better.

Mr. Byrne: All right.

By Mr. Byrne:

Q. Lieutenant, you are an Assistant Fire Marshal in the City of Philadelphia?

A. That's right, sir.

Q. Did you in the course of your duties—strike the question, please.

With what particular division, if any, of the Fire Department are you concerned, sir?

A. With fire protection and investigation.

Q. What has been your experience, sir, in the Fire Department and your education and training in connection with fires, sir?

A. I have been a fireman for eighteen years, I have been a Lieutenant in the Fire Department for the past ten years, and the last five years an Assistant Fire Marshal.

Q. Do you obtain any training other than experience?

A. Yes.

Q. What is it, Lieutenant, please?

A. Well, we had schooling by the National Board of Fire Underwriters on arson investigation; another course by the National Board of Fire Underwriters on investigation of fires; and the NFPA Convention, which is a source of education pertaining to fires, plus the fact of my experience of eighteen years as a fireman.

Q. Lieutenant, how long have you been engaged in the investigation of fires?

A. The past five years.

Q. Lieutenant, in the course of your duties did you have any connection with an investigation into a fire which involved the Tug "Arthur N. Herron" on the Schuylkill River on the 18th of November, 1952, sir?

A. I did, sir.

Q. Will you tell us what you found, first of all telling us, of course, approximately when you arrived?

[fol. 64] A. I arrived at the north side of Penrose Ferry Bridge at 2:15 a.m. on November 19, 1952. At that time the tugboat "Arthur Herron" and a mud scow were beached on a tract of land what I know as Mingo Dump.

Q. Can you locate that as to which side of the river it is on, sir?

A. Mingo Dump is on the West bank of the Schuylkill River just north of the New Penrose Ferry Bridge.

By the Court:

Q. Is that the Philadelphia side or the Chester side?

A. That is what we would call the Atlantic side, I believe. The people in the Refining call that the Atlantic side.

Q. But would you call it the Philadelphia side of the Chester side?

A. The Chester side, sir.

By Mr. Byrne:

Q. Now, did you board the tug, sir?

A. At that time it was impossible for me to board the tug but later on in the morning I did board the tug, when it was moved down to the City pier below Penrose Ferry Bridge on the Chester side of the river.

Q. Now, at the time you arrived there shortly after two o'clock in the morning you have said it was impossible to board it at that time. What was the tug's condition at that time, sir?

A. If I may go back to my report here?

Q. Yes, sir.

A. As I say, the "Arthur Herron" and mud scow had been beached on the west bank of the Schuylkill River about one-quarter of a mile north of a road known as One Mile Stretch.

Now, I am elaborating on this to explain where I saw the boat at that time—on a road known as the One Mile Stretch, and about the same distance south of the Esso Standard Oil Company wharf and directly opposite the Gulf Refining Company. This is a large tract of filled-in land and is well known as Mingo Dump.

Q. Now, when you boarded the vessel—

Mr. Freedman: You hadn't finished your answer yet, had you, Lieutenant?

The Witness: Well, I was asked when I boarded it.

Mr. Freedman: When you boarded, that is what I thought. You hadn't finished your answer yet, had you?

Mr. Byrne: Do you wish to object, Mr. Freedman?

Mr. Freedman: I object if the witness hasn't finished the answer. I think he should be permitted to finish.

Mr. Byrne: Well, then, object.

The Court: Had you finished your answer? Had you finished what you meant to say in answer to the question?

The Witness: Well, I believe the answer was when did I board the "Arthur Herron".

[fol. 65] The Court: Yes. When did you, what time? You said you couldn't board it when you got there.

The Witness: That is right.

The Court: What time did you board it?

The Witness: Because of conditions, and I would explain the conditions—

The Court: No, we don't need that yet. Just tell us now what time you boarded it.

Mr. Byrne: The question was where it was, sir.

Mr. Freedman: I think his question was, Your Honor, "Why couldn't you board the tug when you first saw her?"

The Court: But can't I ask when he did board it?

Mr. Freedman: Sure; sure.

The Court: Much obliged.

Mr. Freedman: Think nothing of it, Judge.

All I had in mind, sir, I didn't want to interrupt you, but—

The Court: That is all right.

Mr. Freedman: —all I had in mind was that the question was why couldn't he board it, leaving an inference that there had been something wrong.

The Court: Tell me when you did board it. How long were you there when you boarded it? If it isn't in your report, tell us what you remember. About how long were you there?

The Witness: Well, sir, the condition of the boat at the time was impossible for anybody without the aid of a boat to board the "Herron". Therefore, it was my duty to go to the hospital where the men were that were injured—

The Court: Yes, I know. That is all right, but tell me what time you boarded it. Then go ahead and tell the rest.

The Witness: Approximately 8:00 a.m. the same morning.

The Court: All right. Now, you go ahead with the rest of the story.

By Mr. Byrne:

Q. Tell us what you found when you boarded it, sir.

A. Well, going on board, I immediately went through the boat from stem to stern, looking for the two men that I knew were lost.

Q. Now, do you want me to explain the condition of the boat?

Q. Yes, sir.

The Court: All right.

A. Again, I will ask to go back in my report here.

Mr. Byrne: Yes, sir.

I have no objection; do you have any objection, Mr. Freedman?

Mr. Freedman: Certainly not.

The Witness: Is it permissible for me to cover my report from 2:25 A.M. of that morning?

[fol. 66] The Court: If it is necessary to tell us what we want to know. We want to know what you saw. That is all we want to know, what you saw when you boarded the tug. That is really all we are interested in, what you observed.

The Witness: At approximately 8 A.M. on the 19th, I went through the entire boat from stem to stern, looking for bodies of the missing men, without any results. They weren't on board.

Now, the entire wheelhouse and boat deck were a total loss. The engine room showed no sign of being afire, other than what burned through from the wheelhouse in the boat deck directly above.

What I mean by that, it burned from the outside in.

In the crew's quarters, located forward below decks, the only sign of fire was what came down through the ventilator from the intake.

The Court: May I have the pictures?

Mr. Byrne: Yes, sir.

The Witness: I also have pictures here, Your Honor, the pictures of the Philadelphia Fire Department.

The Court: Hand them over and let me see them. You can put them in evidence later.

The Witness: I believe these were taken—

The Court: That is all right. That is good.

Go ahead with your story.

The Witness: The intake—that is, the ventilator intake, was located on the top side forward.

The heat also melted the paint on the portside of the crew's quarters. There was no fire damage other than the second locker that is located right beneath the ventilator. There was no evidence of fire in the paint locker, which is on the starboard of the main deck, just forward of the engine room.

The galley, which is located forward under wheelhouse, was a total loss. That has doors on both port and starboard side. Therefore, it gave the fire a perfect draft right through the galley.

Crew's quarters located after on the main deck were also badly damaged.

Midship of this boat, on the portside, was not damaged by fire, which shows me that the mud scow which was lashed to the portside of the tug protected it to some extent. That is midships.

All rubber tires used as bumpers that were hanging over the sides at about the waterline were completely burned, except a few that were hanging midship portside. These were partially burned.

On further investigation, I found that the——

Do you want me to go from there and continue?

By Mr. Byrne:

Q. Yes, sir, as to your findings.

[fol. 67] A. On further investigation, I found that the hand kerosene lamp used as a running light on the mud scow on the portside forward corner showed signs of plenty of heat. My pictures will show that fact.

The glass of the globe was broken and laying around the base. This lamp was almost filled to capacity with fuel. The neck of the lamp, with the cap still screwed into the base, was lying about one foot from the lamp itself. This shows me that there was so much heat to build up enough pressure to blow the neck and cap off the lamp.

All tires used as bumpers that were hanging at about the waterline on the forward end of the mud scow were completely destroyed by fire.

Q. May I interrupt you at this point?

(To the Court). May I please have the photographs which were marked yesterday? I don't want to interrupt you in looking at the others.

The Court: He has one showing this lamp.

Mr. Byrne: I thought we did, too. Maybe we don't.

The Court: Maybe you have.

Mr. Freedman: We have pictures that the Coast Guard took showing the complete minute details of the lamp.

The Court: All right.

The Witness: Your Honor, on the back of them, you will see that they are all explained as to where, the time, the weather, and so forth.

The Court: Yes.

The Witness: And the distance.

Mr. Freedman: May I see those, if your Honor please?

Mr. Byrne: Have you finished with the witness' photographs?

The Court: Yes.

By Mr. Byrne:

Q. Now, Lieutenant, you have produced a number of photographs?

A. Yes, sir.

Q. You have referred to the fact that photographs which you have will explain in detail what you mean by the condition of the kerosene lamp about which you just testified.

Would you select which photograph, and then tell us, explain to us, rather, what you were going to tell us.

A. I said that the running light was on the port forward side of the mud scow. There is two photographs showing the position of the lamp, and the photographs show that the position, the lamp still remains in the position that it was in during the fire.

Q. Does this photograph show anything with respect to the condition of the glass of the globe of the lantern?

A. The condition of the—that is shattered. That is, the glass is shattered and laying all around within, I will say, a radius of 18 or 20 inches around the lamp.

[fol. 68] Q. Is there anything of the glass that has fallen in on top of the wick, so to speak?

A. No, I did not see any glass in on top of the wick.

Q. Now, you referred to the cap. Will you explain to the Court what you meant by that?

A. Well, the cap in this photograph will show—well, approximately a foot from the lamp, and the cap screws into the fuel tank of the lamp. That is sheared off, right at the base of the lamp. Therefore, the cap and the part that it screws into are one piece.

The Court: Didn't somebody say that you had a lantern like this, or a lamp, that you were going to show me?

Mr. Freedman: Yes, sir.

The Court: So that I can see what it looks like.

The Witness: I believe the photographs of the Coast Guard will show a close-up.

The Court: I meant the actual lantern.

Weren't you going to bring it in?

Mr. Byrne: I have one in my office, Your Honor, and I will send for it. In fact, the original is still available.

The Court: I would like to see an actual lamp so that I know what he is talking about.

The Witness: There is the picture (indicating).

The Court: I see it in the photographs, but I would like to see what it looked like before this happened.

All right, go ahead, tell me was the scow itself burned?

The Witness: Yes, sir, it was burned on the outside, Your Honor.

Now, when I speak of the bumpers, that is, the tires used as bumpers on this scow, the pictures here will show that is the front end of the scow (indicating).

Here is a close-up of the front end of the scow (indicating). You can definitely see there is nothing left of the tires at all.

The Court: All right.

Go ahead, Mr. Byrne.

By Mr. Byrne:

Q. Lieutenant, as a result of your investigation, did you, or were you able to, reach any conclusions as to what had burned; in other words, what the fuel or composition that supplied the combusting agent here was?

A. The actual fuel?

Q. Yes, sir.

[fol. 69] A. No, I could not.

Q. Well, I didn't mean—let me put it this way:

Did the fire, or was the fire outside of the tugboat or inside of the tugboat?

A. My opinion is that it was on the outside of the tugboat, outside of the tugboat and scow.

Q. Upon what do you base that opinion, sir?

A. As I saw, the engine room shows signs of burning from the outside in. The wheelhouse the same way. The flash of the fire, it shows me that it flashed right up onto the boat from the outside.

Q. Now, Lieutenant, in addition to the observations which you yourself made on the tug, you made an investigation from persons who had first-hand knowledge of what had occurred, did you not?

A. If you are speaking of the crew members, yes, sir, I interviewed them.

Q. Were you, as a result of that investigation, able to reach a conclusion as to the location of the combusting agent?

A. By that I take it that you mean what I derived from their answers?

Q. Yes, sir.

A. That I reached my conclusion.

Q. Yes, sir.

A. No, sir.

My investigation—I reached my conclusion through my own investigation.

Q. Lieutenant, I can't ask you a leading question. I want to direct your attention to whether the results of your investigation led you to any conclusion as to whether the material, whatever it was, which burned, was on the tug, on the water, where was it?

A. I can read here, when I went to St. Agnes Hospital and interviewed two of the remaining crew members that were at the hospital—will that answer your question, sir?

Q. Well, no. I want to know what you concluded as a result of what you learned by investigation as to where this combusting agent was, whether it was on the tug.

A. You want my opinion, sir?

Q. Yes, sir.

A. It was my opinion that the tugboat "Arthur N. Heron" while proceeding downstream with a loaded mud scow lashed to her portside, ran into an inflammable slick on the water. Either the vapors or the inflammable slick on the water came in contact with the open flame of the kerosene lamp on the forward portside of the mud scow, causing the inflammable slick on the river to ignite, setting the boat afire.

[fol. 70] Q. Now, Lieutenant, if you will stop there, please, and we will go over that information a moment.

The inflammable slick, sir, did you investigate to determine, if you could, the source of that combusting material?

A. I did, sir.

Q. Were you able to determine the source of it, sir?

A. No, sir.

Q. Lieutenant, in your experience as a fireman do you know of any prior incident in the City of Philadelphia—

Mr. Freedman: Any what?

Mr. Byrne: Prior incident in the City of Philadelphia.

By Mr. Byrne:

Q. —where the surface of the river burst into flames such as apparently happened here?

Mr. Freedman: Objection.

The Court: I will have to sustain that objection.

Mr. Byrne: May I ask the ground upon which it is made, sir?

The Witness: My experience?

The Court: Because he is only competent to testify as to his opinion.

Mr. Byrne: I beg your pardon, sir.

The Court: He is competent as an expert to testify as to his opinion; he is not competent to testify as to what happened in some other case.

Mr. Byrne: I am not asking him to, sir. I am asking him if he has known, if his experience—now, I am not asking an opinion at this point.

Mr. Freedman: Which is absolutely irrelevant.

Mr. Byrne: No, no, it wouldn't be. Suppose it was a hole in the street down on Chestnut Street that we ran into!

The Court: Well, you are not trying to support his opinion by it.

Mr. Byrne: No, no.

The Court: Oh, I understood you were.

Mr. Byrne: No, sir; no, sir.

The Court: All right, I will—

Mr. Freedman: If the Court please, before Your Honor makes that ruling—

The Court: That is a different proposition. I thought it was on the basis—

Mr. Byrne: No, my question—

Mr. Freedman: If Mr. Byrne is trying to get it in on the basis that in order to show a defect that the principal had noticed—

The Court: That is right. I can see—

Mr. Freedman: —that is a positive thing. But it doesn't work the other way around, sir.

[fol. 71] The Court: Well, I will tell you, Mr. Freedman, I am going to give you your objection, I am going to note your objection, but I think this ought to be taken subject to your objection and if I have to eliminate it it can easily be done.

Mr. Freedman: Very well, sir.

The Court: We don't have a jury. I will take it subject to Mr. Freedman's objection and hear him on a motion to strike it out later.

By Mr. Byrne:

Q. Lieutenant, my question to you is this: In your prior experience with the Fire Department as an Assistant Fire Marshal and in the investigation of fires in the City of Philadelphia do you know of any prior occasion where the surface of the navigable stream, of any navigable stream in the Philadelphia Area, has burst into flames, such as apparently occurred on the evening of November 18, 1952?

A. No, sir.

By the Court:

Q. And your position all through this period would be such that you would hear of it if that happened, is that correct?

A. I believe—I understood since I have been an investigator of fires have I ever experienced anything like this.

Q. That would be how long?

A. I have been an investigator for the past five years, sir. I have been a fireman for eighteen years.

Q. During the past five years as an investigator if there had been such an occurrence would you have heard of it?

A. I certainly would have.

The Court: All right, that is what I wanted. That is all subject to Mr. Freedman's objection.

Mr. Freedman: Yes, sir, thank you.

By Mr. Byrne:

Q. Lieutenant, you have been in the Fire Department for eighteen years. Do you know of any similar incident based upon your experience in the Fire Department in eighteen years?

A. Based upon my experience, no, no, sir.

Mr. Byrne: Cross-examine.

The Court: Before you start, I want to ask one thing.

By the Court:

Q. I want to ask you to amplify one thing. You expressed some opinion about the pressure or force in the lamp. Would you make that clear to me? It wasn't quite clear.

A. Well, the flame from the outside I feel built up enough pressure to shear that cap off right at the base there, sir. If I can—in this picture here, here is the cap laying there, you see (indicating). See? That is the thing that screws into there. Now, the cap plus the neck—

[fol. 72] Q. It screws into here; you mean it covers the whole thing?

A. It covers the fuel tank. Now, plus the fact the neck has a thread on it, they are both sheared off. There are two pieces here.

Q. How would there be pressure enough to do that?

A. Well, the heat, the outward heat, would cause a pressure inside. This is kerosene, you understand.

Q. Yes.

Q. And because an interior pressure—will say in this cause a hydraulic pressure; it raises and blew it out.

The Court: All right, go ahead, Mr. Freedman.

Mr. Byrne: May I, Mr. Freedman, on that same point?

By Mr. Freedman:

Q. At the base where this neck blew out you used the word "shear." Let me ask you, was there a soldered or welded joint joining that neck to the tank, do you recall?

A. That I do not know, sir.

Mr. Byrne: That is all.

Cross examination.

Q. Lieutenant, would you contend that oil slicks on the river are unusual or not to be anticipated?

Mr. Byrne: That is objected to.

The Court: Oh, that is proper cross-examination. Go ahead.

The Witness: May I answer the question?

The Court: Yes.

A. I have known oil slicks to be on the river, yes, sir.

By Mr. Freedman:

Q. Or break into fire?

Mr. Byrne: That is objected to, sir.

The Court: Well, I will take it subject to the objection. I think it is all right.

A. There are occasions when there is a slick on the river.

You were speaking of an oil slick, sir, oil slicks on the river. Where they come from it is almost impossible to find out. There are so many refineries along the river, I have found them as far up as the University Bridge and have been called out two and three o'clock in the morning to find out the reason. It usually happens on flood tide when it goes up to that point, and the reason you are called out, the companies up there do not want to be cautioned by the Fire Marshal and maybe fined, because it stops right at their pier. Therefore, they don't want us to think that they are throwing something overboard, and that is the reason they will call for an investigation on it.

Now, I have also taken samples of that same slick out of the river and it has turned out that it had been so emulsified that the ignition point was almost impossible. I will put it that way. The water had been riding up and down the river.

By the Court:

Q. What do you mean, it could not take fire?

[fol. 73] A. Well, I had it tested in a closed cup and the

results were that the ignition point, they didn't give me an exact point of ignition, but they said it was so emulsified that it was pretty hard to set it afire in its condition.

Q. That applies to some samples you took?

A. That is right, sir.

Now, I think I have finished that question.

By Mr. Freedman:

Q. Are you familiar with petroleum products, Lieutenant?

A. To some extent.

Q. Are you familiar with the properties of high test gasoline and the fumes which they give off?

A. Do you mean the vapors, and so forth?

Q. Are you familiar with the inflammable characteristics of those vapors?

A. Yes, sure, to the extent that vapors emanate from all flammable liquids.

Q. Do you remember an emergency which occurred in your Department in December of 1953, when there was an oil slick on the river?

Mr. Byrne: That is objected to, sir. Nothing after this event is either relevant or admissible.

The Court: I will take it subject to the objection.

By Mr. Freedman:

Q. Do you recall that, Lieutenant?

A. Yes, sir.

Q. Will you tell us what that emergency was?

A. Well, it was because of an oil slick on the river. It happened on a Sunday afternoon, that particular case, and I was sent on it.

Q. And your Department and the Coast Guard and the Army Engineers all were alerted and took extraordinary precautions to prevent a fire from that oil slick, is that correct?

A. That is right, sir.

The Court: That wasn't an actual fire?

The Witness: There was no fire, sir.

By Mr. Freedman:

Q. The fire boats were standing by?

A. Yes.

Q. And all other emergency equipment was in action to prevent a fire, is that right?

A. That's right, sir.

Q. All because of that oil slick on the water?

A. Because of the oil slick.

Q. They even had fire fighting units from the Navy there, didn't they, on both banks? Do you remember that?

A. No, I can only answer, sir, from my Department.

Mr. Byrne: Sir, my objection goes to the whole line.

[fol. 74] The Court: Yes, sure. I think it is all right.

By Mr. Freedman:

Q. What was your answer, sir?

A. I said that I can only answer from the Philadelphia Fire Department.

Q. Well, you were there, were you not?

A. I have no—

Q. Weren't you there, Lieutenant?

A. I was there from one point of the river to the extreme end of the river. I have an automobile and I hit every dock along the river to see the—

Q. Didn't you see—I am sorry, I didn't want to cut you off, sir.

Didn't you see the special emergency equipment by the Navy all along both banks?

A. I did not.

Q. Wasn't it the opinion of the officials then that a fire was averted only by a hair's breath, to use their term?

Mr. Byrne: Oh, objected to, sir.

By Mr. Freedman:

Q. Of your Department.

Mr. Byrne: Just a minute, Lieutenant. That is objected

The Court: Yes, I think I will have to sustain that.

Mr. Freedman: Well, he is part of that Department, sir, and I just want to know if he shared their beliefs.

The Court: Well, you can ask him the question directly as to whether he thought so.

By Mr. Freedman:

Q. Were you concerned about the fire breaking out?

A. Naturally I am concerned every time an oil slick is on the river.

A. You are?

A. There are more than one reason why I am concerned. It is because I am investigator, Number 1, and if the oil slick is coming out of one of them refineries, it is up to me to try to find out who is throwing it, more so for the purity of the stream, in my way of thinking, than some other things that may occur.

Q. Well, does your interest go beyond the question of the inflammability? Are you interested in the purity of the stream or the possibility of fire?

A. My job is the possibility of fire.

Q. And when you say that you are concerned about oil slicks is it because you are worried about the possibility of a fire or the purity of the stream?

A. Did I say I was interested to that extent?

Q. I think your words before were that you were concerned about all oil slicks on the river.

The Witness: (To the Reporter) Would you read that? [fol. 75] Mr. Freedman: We will be glad to have the reporter go back.

The Witness: Read that back, please.

The Court: Well, it is all right. It is pretty obvious that the Fire Department wouldn't be out there if they didn't think there was a danger of fire.

Mr. Freedman: That is what I thought, Your Honor.

The Court: Regardless of what the witness may say about the purity of the stream, I doubt if the Fire Department would have all turned out unless they felt there was a real danger of a fire.

Mr. Freedman: Well, I will leave that subject, then.

By Mr. Freedman:

Q. Let me ask you about one other incident, Lieutenant. Are you familiar with the——

The Court: Let me ask him so we will get it on the record.

By the Court:

Q. Wasn't it your opinion at that time that there was danger of a fire?

A. Yes, sure. I am Assistant Fire Marshal. That was one of the reasons I was called down there that Sunday.

The Court: Yes, surely. That is what we wanted to get at.

By Mr. Freedman:

Q. Are you familiar with the investigation that was made of the fire at the Connelly Container plant, involving a seepage of high octane gasoline from a refinery?

A. I did not make that investigation, sir.

Q. Are you familiar with it?

A. I heard of it, yes, sir.

Mr. Byrne: Now just a minute. If the Court please, I object to this——

A. (Continuing) But I——

Mr. Byrne: —as irrelevant in this case because that did not involve any seepage into the navigable waters.

Mr. Freedman: What difference does it make if it is on a navigable water or any place else?

Mr. Byrne: Oh, no. The Connelly Container case was a suit tried in City Hall about a year ago based upon the theory that an underground or some sort of—there was seepage through the earth from one piece of property to another. Now, I don't see that that——

The Court: I don't know, but I am admitting this testimony on this theory that you produced—the theory may be wrong; in which case the whole thing would have to go out, but the theory on which I am admitting this cross-

examination is that you asked the witness a question or two to indicate that there was no reason that anybody should anticipate that an oil slick would cause a fire.

[fol. 76] Mr. Byrne: No, sir; no. I simply asked—

The Court: Well, then, I don't know what you asked the question for.

Mr. Byrne: I asked this question, whether this witness in his experience had ever known of a—

The Court: That is right, I heard your question.

Mr. Byrne: —slick catching fire.

The Court: I heard your question, but what conclusion are you going to draw from his answer? What do you want me to draw from his answer? It is either relevant or it isn't. For what purpose is it relevant?

Mr. Byrne: It is relevant for this purpose, sir, that the American Dredging Company is only negligent—I am just making an argument here—it is only negligence on the plaintiff's theory, as I see it, it can only be negligent if it did something that it should have anticipated would cause fire.

The Court: That is right.

Mr. Byrne: Foreseeability.

Now, there is no prior fire in the City of Philadelphia or anywhere else, so far as I know, that originated on navigable waters like this.

The Court: Yes. Well, I have stated my reasons and I think they may be sound. At any rate, I will take the examination subject to the objection.

Mr. Byrne: If the Court please, there is one other thing. The main purpose of my calling this witness was to show that the fire originated outside the vessel,—

The Court: That is right.

Mr. Byrne: —not inside, because in my view my burden of proof at this point is solely the statutory burden, and from here on I—

Mr. Freedman: Well, you departed from that purpose; you opened this door. I wouldn't have asked these questions.

The Court: Well, I have your statement.

The only thing, Mr. Freedman, is that we can't go into every fire in Philadelphia and we will have to use com-

parable situations, so if you will confine your examination to——

Mr. Freedman: I will stop at this one, Your Honor.

The Court: All right.

Mr. Byrne: If the Court please, this man said he didn't make that investigation.

The Court: Well, I don't know what he is going to be questioned about it.

By Mr. Freedman:

Q. Are you familiar with the circumstances involved in that fire?

A. I believe that I said that my opinion was that the source of ignition was the lamp——

Q. No, I mean in this fire which occurred at the Connolly Container plant.

[fol. 77] A. Oh.

Q. And which was allegedly due to the seepage of night octane gasoline, according to your Department.

Mr. Byrne: Objected to.

A. I did not make the investigation.

Mr. Byrne: Wait a minute. Objected to. What kind of a question is "Are you familiar with"——

The Court: I don't know about that, but I still don't know what kind of a case it was.

By the Court:

Q. Was that a case where there was any oil slick or gasoline in connection with the river?

A. It was a case where vapors or we will say flammable liquids permeated through the ground to some extent. That is what I heard about it.

The Court: Oh, I will sustain the objection. If you want to go into it with your witnesses later on, all right, but I don't think that is cross-examination.

Mr. Freedman: I thought it was relevant, sir, because the discharge of gasoline gives off these vapors and whether it is on land or on water the effect is the same because

they are highly inflammable, and whatever it comes in contact with can be subject to becoming on fire.

The Court: Well, I think he has already said that they are highly inflammable.

It is a fact that gasoline vapor, high test gasoline vapor, is highly inflammable, isn't it?

The Witness: That is right, sir.

The Court: That is all you want to know.

The Witness: It has a flash point of approximately 45 degrees.

The Court: Yes.

Mr. Freedman: That is all.

[fol. 78] JAMES M. TAYLOR, having been first duly sworn, was examined and testified as follows:

Direct examination.

By Mr. Byrne:

Q. Where do you live, Mr. Taylor?

A. Highland Avenue, Blenheim, New Jersey.

Q. Mr. Taylor, in November of 1952, were you employed by the American Dredging Company?

A. Yes, I was.

Q. On the 18th of November, 1952, what was your position?

A. I was captain on the tug "Arthur N. Herron."

Q. Now, Mr. Taylor—

Mr. Freedman: Captain, would you please keep your voice up a little bit, please?

The Witness: Yes.

Mr. Freedman: Thank you.

By Mr. Byrne:

Q. Mr. Taylor, what was your experience going to sea or out in boats prior to November 18, 1952?

A. I worked for the American Dredging Company for about five years, but before that, I worked all of my life around boats, from the time I was 16 years old.

Q. Starting at the time—

The Court: How old are you now?

The Witness: 29.

By Mr. Byrne:

Q. Start at the time you were 16 and tell me what your experience with boats was.

A. Well, it was mostly fishing, commercial fishing.

Q. Commercial fishing?

A. Yes, sir.

Q. How long did that go on?

A. Until I started working with the American Dredging Company.

Q. In what capacity did you start?

A. What was that?

Q. In what capacity did you start when you worked?

A. I started as a captain.

Q. Now, are you familiar with the men who composed the crew of the "Arthur N. Herron" on the evening of November 18, 1952? By that I mean Mr. Bugoski, Mr. Mylan, Mr. Worrell, Mr. Harrington and Mr. McGinley. Do you know them all?

A. Yes, I do.

[fol. 79] Q. Now, starting with Mr. Mylan, did you have an opinion as to his competence, his ability as an engineer?

A. Yes. He was a good engineer.

Q. And he was the engineer on the tug?

A. He was the engineer on watch.

By the Court:

Q. How long did you work with that particular group of men?

A. Well, it was about two months when I was on that boat. Every once in a while you would change off and they would put you on a different boat at different times.

Q. Well, how many times have you worked with this group, as well as you can give it to me?

A. About four different times, I think, in that period.

Q. That would cover what, a couple of days each time?

A. Well, it would be maybe two months at a time, maybe six months, maybe a year. During the five years I worked with them about three or four different times.

Q. Sometimes as much as a couple of months?

A. Yes, sir.

Q. Then you knew them thoroughly?

A. Oh, yes, sir, I knew them.

By Mr. Byrne:

Q. Now, how about Mr. Worrell? How long had you known Mr. Worrell?

A. I had known him, I guess it was about two years.

Q. Had you worked with him during that period?

A. Yes, I had.

Q. Had you formed an opinion as to his competency as a deckhand?

A. Yes, sir.

Q. What was it?

A. Well, he could steer that boat as good as I could.

Q. Well, was he a good—

A. He was a good deckhand, yes, sir.

Q. He was a good man. How about Mr. Harrington? How long had you known him in connection with his work?

A. Well, I hadn't known him, I guess, but maybe six months. That is about all, as far as I remember.

Q. Were you able to form an opinion as to his competency as a deckhand?

A. He was a good deckhand, also.

Q. How about Mr. Bugoski? How long had you known him in his occupation?

A. I had known him about three and a half years.

[fol. 80] Q. Were you able to form an opinion as to his competence for the position he occupied on the tug that night?

A. Yes, he was a good oiler.

Q. How about Mr. McGinley?

A. I had known him about—well, the time I was on the "Herron" the last time, about two months.

Q. Is that the total time, two months, or is that just the last time?

A. Well, that was the last time I was on the "Herron;" about two months.

Q. What was his position?

A. He was cook on the tug "Herron."

Q. Was he competent?

A. Yes, sir.

Q. In so far as you know, he was an experienced marine cook?

A. As far as I knew, he was, yes, sir.

Q. Is there anyone I have missed in going down the list?

A. No, sir, there isn't.

Q. Now, are you familiar with the life jackets which were on the "Herron" that evening?

A. Yes, sir.

Q. Can you tell me how many there were and where they were?

A. Well, there was three life jackets in the wheelhouse.

Q. Stop there and tell me where they were located in the wheelhouse and how large the wheelhouse was.

A. Well, they was located over the over-hang in sort of racks that you could reach up and get one if you needed it.

Q. Sort of in the overhead above your head?

A. Yes, yes.

The Court: What were they made of, cork?

The Witness: Yes, sir, cork.

By Mr. Byrne:

Q. How many were there that you know of?

A. There were three in the wheelhouse at all times.

Q. How large was this wheelhouse, approximately?

A. I would say it was about 15 by 5, something like that, 15 foot long.

Q. Now, where else were there life jackets?

A. There was six life jackets in the after cabin. That was the engineer's quarters and the oiler's quarters. There was also six there in racks like there were in the wheelhouse.

Q. All right. Where else were there life jackets?

Mr. Freedman: May I have that answer again? You said there were six in the engineer's quarters? Is that what you said?

The Witness: Yes, that was in the after cabin, in the after quarters.

[fol. 81] Mr. Byrne: He says they were in the after quarters where the engineer and someone else was.

Mr. Freedman: I see. Thank you.

The Witness: And in the fore-castle, there was enough life jackets for all of the deckhands, which was six.

Mr. Byrne: Six?

The Court: You have got 15 now? Is that the total number?

The Witness: Well, there was—there was always at least three life jackets in the engine room over the overhead.

The Court: That is in addition to the ones you have already mentioned?

The Witness: Yes, sir.

The Court: That would make 18 then?

The Witness: Yes, sir.

By Mr. Byrne:

Q. Mr. Taylor, was there any fire-fighting apparatus, like fire extinguishers apparatus on the tug that night?

A. Yes, there was.

Q. What was it, and where was it?

A. In the lower engine room, there was a CO₂ unit. In the wheelhouse, there was another 15-pound CO₂ fire extinguisher, and there was also another one in the after cabin in the engineer's quarters.

Q. So far as you know, were they in good condition?

A. As far as I knew they were, yes, sir.

Q. Now, there has been testimony here with respect to a hose, variously called, sometimes referred to as a fire hose. Were you in court when that was referred to?

A. Yes, sir.

Q. What hose is that? Where is it connected? What is its composition and what was its condition that night?

A. Before the fire, you mean?

Q. Yes, before the fire, yes.

A. It was an inch and a half rubber hose, two 50-foot lengths connected together. They ran from the starboard side all of the way around the deck.

Q. Where was the connection from which the water went into that hose?

A. That was on the starboard side of the tug.

Q. Now, on the 18th of November, what time had you and the other men in the crew come aboard, approximately?

A. It was 4 P.M. on November 18 when we changed crews.

Q. Now, at any time on the 18th of November was that hose used, to your knowledge?

A. Yes, sir, it was.

[fol. 82] Q. When and where?

A. Well, we used it three or four different times when we also was lying out to the Mantua Creek moorings. I had the deckhands wash the mud off the mud scow there by the moorings.

Q. That was after 4 P.M. on the 18th of November?

A. Yes, sir.

Q. How did it operate?

A. It operated perfect.

Q. Now, if you had been operating that tug from 4 P.M. to approximately 10 P.M., you had traveled some little distance in there, had you not, on the 18th of November? In other words, the day of the fire, the day before the fire, you had made some trips with the tug?

A. Yes, sir, I had.

Q. Who navigated it?

A. I did myself.

Q. How did its navigating equipment perform?

A. Everything was working fine.

Q. Captain you had—strike the question.

Did you have any communicating equipment on the tug?

A. Yes, sir; I had a mobile telephone system.

Mr. Freedman: I didn't quite get that. Would you speak a little louder?

The Witness: There was a mobile telephone system, a mobile unit.

By Mr. Byrne:

Q. Was that operating?

A. Yes, sir, it was.

Q. How was the hull of the "Herron" as far as being tight?

A. There was nothing wrong with it that I knew of.

Q. What was the composition of the hull, do you know?

A. It was steel.

Q. Captain, in navigating a tug, do you or—did you or did you not have occasion to give orders to the engineer with respect to the maneuvering of the engine on the 18th of November, 1952?

A. Yes, I did.

Q. How did the engine perform during the various manoeuvres which you ordered?

A. I seen nothing wrong with it. Everything was working fine, as far as I know.

Q. Captain, so far as you know, was there anything defective or unseaworthy about the "Arthur N. Herron" on the 18th of November, 1952, prior to the fire?

Mr. Freedman: Objection, sir. He is asking for a conclusion which is for the Court to decide.

The Court: Well, I think it is a fact. I don't know that it is a matter of law.

[fol. 83] Mr. Freedman: When he says is there anything unseaworthy, that is a matter for the Court to determine. If he asks whether there was any unsafe condition—and when I say "unsafe" I mean any particular defect, that is one thing, but when he asks for a conclusion, I object.

The Court: It is really a matter of words. I will take the testimony.

Mr. Byrne: Will you repeat my question, Miss Maschka?

(The last question was read by the reporter.)

A. No, there wasn't.

Mr. Byrne: You may cross-examine.

Cross examination.

By Mr. Freedman:

Q. Captain, I think you said you are 29 years old now?

A. Yes, sir.

Q. How old were you at the time of this accident?

A. 26.

Q. You came to work for the American Dredging as a captain on the tugboat when you first started with the American Dredging; is that right?

A. Yes, sir.

Q. Had you had any prior experience as a captain?

A. Not as a captain, no, sir, but I worked on commercial fishing boats all of my life.

Q. Fishing boats?

A. Yes.

Q. Did you have any license from the Coast Guard as a captain or as any officer?

A. I held one license. That was a license carrying passengers for hire, a charter-boat license.

Q. A motorboat license?

A. Yes, sir.

Q. Did that designate you as a captain or an officer?

A. Yes, sir, it did.

Q. Do you have it with you?

A. No, sir, I don't. It expired in 1946.

Q. As a matter of fact, wasn't that a license simply to enable you to operate a motorboat?

A. Yes, sir, it was.

Q. It had nothing to do with calling you a captain or an officer?

A. Yes, it did. It had something to do with it.

Q. You mean you were licensed as an officer by the Coast Guard?

A. Yes, sir.

Q. Did you have your motorboat license at the time you came to work for American Dredging?

[fol. 84]. Mr. Byrne: If the Court please, the term "motorboat" license is Mr. Freedman's terminology. It is not the terminology of the witness.

The Court: All right. I understand that.

Mr. Byrne: I object, sir, to a question which is misleading to that extent. If the witness calls it something, I think it was——

The Court: Well, I understand it is merely what Mr. Freedman is calling it for convenience. It may or may not be a motorboat license.

By Mr. Freedman:

Q. What kind of a license——

Mr. Byrne: It is a charter-boat license.

The Court: It is what?

Mr. Byrne: It is a charter-boat license, as I understand it, to carry passengers for hire.

The Court: All right.

Mr. Freedman: That is not what the Coast Guard calls it.

By Mr. Freedman:

Q. What do you call it?

A. It is a license to carry——

Q. What kind of a license is it? Did it have a name?

A. It is a certificate.

Q. It is a certificate, not a license?

A. Yes, sir.

Q. What is it entitled at the top?

A. I don't remember just how it reads now.

Q. It is a certificate to operate motorboats; is that right?

A. To carry passengers.

Mr. Byrne: If the Court please——

A. (Continuing) To carry passengers for hire. That is what it is.

By Mr. Freedman:

Q. Was it entitled "Certificate to Operate Motorboats"?

A. To carry passengers for hire. That is what it was.

Q. Did you have that certificate when you first went to work for the American Dredging Company?

A. Yes, I did.

Q. Are you sure?

A. Yes, I had it, but I don't know if it had run out or not.

Q. Don't you know that it did run out back in 1951?

A. I never had it renewed because I didn't have occasion to use it.

Q. You knew it ran out?

A. Yes.

Mr. Byrne: Don't stop the witness.

(To the witness) What was your answer, you never had it renewed—

The Court: Well, it wasn't responsive, so it is all right. [fol. 85] Mr. Byrne: If the Court please, the witness may not be cut off on cross-examination. He was in mid-stream.

Mr. Freedman: He was not cut off.

The Court: Well, he may be cut off in midstream if his answer is taking him out of the scope of the inquiry.

Mr. Byrne: May we go back? I don't think it was out of the scope.

The Court: The only question is whether it expired. He can explain if he wants to why he did not renew it.

(To the witness) Had it expired?

The Witness: Yes.

The Court: All right.

Mr. Byrne: And then he was explaining.

The Court: Go ahead and tell us why you didn't have it renewed.

The Witness: The reason I did not have it renewed, the new type of work, I didn't need it any more, so I never had it renewed.

By Mr. Freedman:

Q. When you say, "The new type of work," you mean the work on the American Dredging?

A. Yes, sir.

Q. You mean that certificate didn't apply to the work on the American Dredging?

A. That's right.

Q. Captain, are you familiar with the regulations governing the operation of tugboats?

A. Yes, sir.

Q. Steam and Diesel?

A. Yes, sir.

Q. Is there a difference between steam and Diesel?

A. Yes, sir, there is.

Q. They do the same work, don't they?

A. That's right.

Q. Are you able to state what life-saving equipment and fire-fighting equipment is required on board a tugboat?

Mr. Byrne: Objected to. This witness was not put on for that purpose.

The Court: I think that's right, but it will only mean that we will have to call him back.

Mr. Byrne: He doesn't purport to be an expert on what is required.

Mr. Freedman: They put this witness on—

Mr. Byrne: Just a minute. May I make my statement? The witness testified to what was on there.

The Court: That's right.

Mr. Byrne: What the statute might require is not a matter for this man to testify to at all.

[fol. 86] Mr. Freedman: Are you through, Mr. Byrne?

Mr. Byrne: Yes, I am.

Mr. Freedman: You put him on also to testify concerning the seaworthiness of the crew and the competency of the crew, and this certainly goes to that very materially and directly.

The Court: The seaworthiness of the ship.

Mr. Freedman: Yes.

Mr. Byrne: You mean that knowing the statute those two—

Mr. Freedman: Mr. Byrne, you have made your objection.

Mr. Byrne: Yes, I have, and I persist in it, sir.

The Court: I will overrule the objection and take it, however, subject to the objection.

(To the witness) Do you know what is required by the regulations, or whatever they are, in the way of lifesaving equipment?

The Witness: Yes, sir.

By Mr. Freedman:

Q. Will you state what they are, please?

A. There is life jackets, life rings secured in the proper place on the boat.

Q. Are you familiar with the regulations which govern fire boat drills and lifesaving drills?

Mr. Byrne: Objected to. There are no such.

By Mr. Freedman:

Q. Fire and lifeboat drills?

Mr. Byrne: --with respect to this boat.

Mr. Freedman: I object to Mr. Byrne making suggestions to the witness, if the Court please.

Mr. Byrne: I don't mean it for the purpose of—

Mr. Freedman: First of all, you are wrong, Mr. Byrne.

Mr. Byrne: No, I am not wrong.

The Court: I will permit the question.

The Witness: What was the question again, please?

By the Court:

Q. Do you know anything about any regulation with regard to lifeboat drills, safety drills?

Mr. Freedman: And fire drills.

The Court: Fire drills.

A. Yes, I am a little familiar with it, yes, sir.

By Mr. Freedman:

Q. Are you familiar with those regulations?

A. To some extent, yes, sir.

Q. And don't they require you, that is, personnel on tug boats, to conduct fireboat and lifeboat drills regularly?

[fol. 87] Mr. Byrne: Objected to.

The Court: I will take it subject to the objection.

A. Yes, sir.

By Mr. Freedman:

Q. They do. Did you have fire and lifeboat drills on your tugboat regularly?

A. No, we didn't.

Q. Sir?

A. No, sir.

Q. I didn't get your answer, sir.

The Court: "No, sir," he said.

Mr. Freedman: "No, sir."

By Mr. Freedman:

Q. Did you ever have a fire or lifeboat drill during your entire five-year period with the American Dredging Company?

A. Yes, sir, we did.

Q. When?

A. I just don't remember when, but we have had them.

Q. You don't remember over the five-year period when you had it?

A. No, sir.

Q. Do you have any instructions from the company to conduct fire and lifeboat drills?

A. No, sir.

Q. When you did have this fire drill how many would you say you had over this five-year period?

A. How many what?

Q. How many fire and lifeboat drills would you say you had over this five-year period?

A. Well, every once in awhile you put the lifeboat overboard to see if it is free, if all the blocks is free; if that is what you mean.

Q. How long did it take you to do it?

A. It takes about fifteen or twenty minutes.

Q. Fifteen, twenty minutes to put it overboard?

A. (Witness nods head.)

Q. Every once in awhile?

A. Yes, sir.

Q. What do you mean by "every once in awhile"?

A. Well, maybe twice a year if you are on the same boat.

Q. Is that all that you did, just put the lifeboat overboard?

A. Yes, sir.

Q. How about a fire drill?

A. No, sir, never had a fire drill.

[fol. 88] Q. Never had a fire drill.

Have you ever read any of the literature from the United States Coast Guard regarding recommendations in connection with fire fighting and fire prevention on board ship?

Mr. Byrne: Objected to.

The Court: Same ruling.

Mr. Byrne: If the Court please,—I don't want to instruct the witness, Mr. Freedman. May I make my position clear at side bar?

Mr. Freedman: Let's do it at side bar, sir.

(At side bar:

Mr. Byrne: If the Court please, the tug—

Mr. Freedman: The witness can hear what you are saying.

Mr. Byrne: Well, let the witness go down, then. Go ahead, Mr. Taylor, go on out in the hall, sir.

The Court: Go ahead.

Mr. Byrne: If the Court please, the tug of the type with which we are dealing here is not a documented vessel, it is not subject to regulation under any of the statutes of the United States or any of the regulations promulgated by the Coast or any of the other subdivisions of the Executive or Legislative Branch of the Government.

The Court: Is that so?

Mr. Byrne: Oh, yes, that is quite correct. The statutes of the United States covers steam vessels. Now, they may be antiquated, but this is not required to be documented, it is not subject to the regulation of the Coast Guard, and we will bring anyone in the Coast Guard in to explain that if it is felt necessary.

Now, I think this line of cross-examination under those circumstances is entirely out of order.

The Court: Well, it may have no bearing whatever when you show what you state is a fact.

Mr. Byrne: I don't have to show that; Mr. Freedman has to show to the contrary.

The Court: Surely. If he fails to show it, it may be that the whole cross-examination is by the way, out of the picture, but I am going to take it subject to the objection. I know your position and that is all that is necessary.

Mr. Freedman: I was just going to say even if we don't prove a violation of the statute there is a standard of care, and that is one thing which—

The Court: But you are asking him now about the statute.

Mr. Freedman: And that is one of the things which will have to govern this standard of care.

The Court: It won't if there is no statute. However, go ahead.

Mr. Freedman: Those are minimum requirements.

The Court: We can sort this out when I come—

Mr. Freedman: Those are minimum requirements, sir.
[Vol. 89] The Court: When I come to make findings I can sort it out.

Mr. Freedman: In addition to which there are regulations which pertain to this tug.

Mr. Byrne: If the Court please, if there are regulations I would like to have them cited.

The Court: Perhaps he will.

Mr. Freedman: I will.

Mr. Byrne: Much more important than that is this, the type of cross-examination which has been conducted is unfair unless Mr. Freedman is now prepared to offer the Court the citation of the statute, because he is using the term "didn't you know that you are required to do this?" and "Weren't you required to do that?"

Now, that I say is unfair and misleading.

The Court: Yes, I think it may be. I think you have something there, except that Mr. Freedman doesn't concede that there is no statute. I think he is going to say that he can show a statute or a regulation.

Mr. Freedman: That is right.

Mr. Byrne: If the Court please, where you are using that in cross examination of a witness as a statement of fact, or a statement as to what the law is and there is some doubt about it, I think it is unfair.

The Court: Well, I think that your argument would be something I would have to very seriously consider if there was a jury here, but I can sort all this out when I come down to it. I don't think there is anything wrong about it with the understanding that it is all taken subject to your objection.

Mr. Byrne: May I ask Mr. Freedman for the citation of the regulation or statute?

Mr. Freedman: May I say as to some of this—

The Court: Oh, no, gentlemen, I have ruled. Go ahead.)

Mr. Freedman: Will you read the last question?

(The question was read by the reporter as follows: "Q. Have you ever read any of the literature from the United States Coast Guard regarding recommendations in connection with the fire fighting and fire prevention on board ship?"

Mr. Byrne: Objected to, sir, unless it is confined to tugs.

The Court: Same ruling. Of course, I assume you mean so far as they are applicable to a tug.

That is what he wants to know. He is not interested in what you do on ocean liners.

Mr. Freedman: That is right.

The Court: Have you ever read any literature about it?

The Witness: Yes, sir, I have.

[fol. 90] By Mr. Freedman:

Q. Are you familiar with the navigational lights which are required to be carried on a tugboat and on a scow?

A. Yes, sir, I am.

Q. Confining ourselves to the lights on the scow, what lights are you required to carry on a trip such as your tugboat made at the time on November 18; at the time of this occasion?

A. We are supposed to carry two lights on each corner, on the outside corners of the scow, one on each corner.

Q. Is there a regulation governing that?

A. Yes, sir.

Q. What else does the regulation say?

A. You also are supposed to carry your running lights on your tug.

Q. No, I mean on the scow, about these lights on the scow.

A. That is all about the lights on the scow.

Q. Don't they say how high? Doesn't it say how high those lights are supposed to be?

A. No, sir, not that I know of.

Q. Would it refresh your recollection if I told you that the regulations said the lights are required to be carried at least eight feet above the water?

Mr. Byrne: Objected to. I ask that the citation of the regulation be given.

The Court: Well, it would be convenient to me if you have such a regulation there to cite it and produce it.

Mr. Freedman: Surely.

I refer specifically to Title 33 of the Code of Federal Regulations, Part 80.16. It is in a booklet put out by the Coast Guard, Title CG-169, and Revised Rules, and so on.

Mr. Byrne: If the Court please, I object.

May I see that pamphlet, please?

Mr. Freedman: Surely.

Mr. Byrne: I show this pamphlet to the Court. It is promulgating rules to become effective January 1, 1954, and you are trying to confront this witness about a 1952 case.

The Court: Yes, that won't do.

Mr. Freedman: Are you contending that the regulation wasn't in effect before that time?

Mr. Byrne: I made my objection.

Mr. Freedman: I have the regulations which precede that, which is exactly the same.

Mr. Byrne: May I see it?

Mr. Freedman: Yes, you certainly may. Take a good look at it.

Mr. Byrne: What is the Section?

[fol. 91] Mr. Freedman: I am saying the same section was in effect way back many years before.

The Court: All right, now you can go ahead.

Mr. Freedman: Here is the one from 1946, Judge, if you would like to see it.

Mr. Byrne: Have you sustained my objection, sir to the last question?

The Court: Not if it is exactly the same regulation that

was in force. It is just a question of which book you use, that is all.

Mr. Byrne: I don't think that is so.

Mr. Freedman: It is the same set of pilot rules. That is only a later edition.

The Court: What does it say in the earlier edition?

Mr. Freedman: The specific language is:

"The white lights shall be carried not less than 8 feet above the surface of the water, and shall be so placed as to show an unbroken light all around the horizon, and shall be of such a character as to be visible on a dark night with a clear atmosphere at a distance of at least 5 miles."

The Court: That is the same regulation.

Mr. Byrne: May I see it?

The Court: It doesn't matter which book you use.

Now he wants to know if you are familiar with that requirement or regulation or whatever it is.

The Witness: Yes, sir, I was.

By Mr. Freedman:

Q. You didn't know about the eight feet, did you?

A. Yes, I knew about it.

Q. You did know about it?

A. (Witness nods head.)

The Court: How far above the water were these lights on your scow?

Mr. Freedman: Pardon me?

The Court: About three feet, he said.

By Mr. Freedman:

Q. As a matter of fact, you only had about two to three feet at the most freeboard, isn't that right?

A. Two and a half to three feet.

Q. And you put these lights right smack on the deck of the barge, is that right?

A. That is the only place I could put them.

Q. You had no other facilities to hang them higher at that time?

A. No.

Q. Is that what you mean?

A. Yes, that is right.

Q. Since this accident has there been any change in the placing of those lights?

Mr. Byrne: Objected to.

[Ed. 92] The Court: Has there been any change. I will sustain that objection.

By Mr. Freedman:

Q. Do you carry your lights eight feet above the water now on your scows?

Mr. Byrne: Objected to.

The Court: I will sustain that objection. It wouldn't make any difference.

By Mr. Freedman:

Q. Could you put a pole in the scow and hang—at that time—

Mr. Byrne: Objected to.

The Court: I will overrule that.

By Mr. Freedman:

Q. Couldn't you put a pole in your scow or on your scow with an arm hanging over on which you could hang your light eight feet above the water?

A. If I had one, yes.

Q. If you had one. And it is customary now to have them—

Mr. Byrne: Objected to.

By Mr. Freedman:

Q. —with a hole in the scow where you can put a pole with an arm on it from which the light can be suspended. Isn't that customary practice?

Mr. Byrne: Don't answer. Objected to.

The Court: I will overrule the objection.

Mr. Byrne: Sir, that is trying to put in evidence subsequent to—

The Court: I have overruled the objection, Mr. Byrne.

Mr. Byrne: All right, sir.

By Mr. Freedman:

Q. Would you answer that, please?

A. I believe it is, yes, sir.

Q. Are you familiar at all with the properties of petroleum products, Captain?

A. To a certain extent I am. I don't know too much about it.

Q. Do you know that discharging and loading of gasoline and petroleum products gives off fumes?

A. Yes, I know that much.

Q. And you know you get those fumes when you go past the refineries on the river?

A. Sometimes you do.

Q. You know those fumes are heavier than air and they lay on the river?

A. Yes.

Q. And the closer to the water they are the more concentrated they are and more subject to inflammation, isn't that correct?

A. Yes, sir.

[fol. 93] Q. Did you know all of these things when you were taking that voyage in November of 1952?

A. Yes, I did.

Q. Are you familiar with the regulation which—well, strike it out.

Let me ask you this, do you know whether there is any regulation requiring signals when tankers are loading or discharging at a refinery plant?

A. Yes.

Q. What does the regulation provide?

A. Well, in the daytime they fly a red flag from the bridge when they are discharging petroleum, and at nighttime they fly two red lights from the bridge or the yard arm.

Q. Did you notice any red lights when you came by the refinery on November 18, 1952?

A. No, sir, I didn't.

Q. You did not notice any?

A. (Witness shakes head.)

Q. Did you notice whether there were any tankers docked there loading or discharging?

Mr. Byrne: At what time?

Mr. Freedman: At any time that he made a trip.

By Mr. Freedman:

Q. When did you come on watch on November 18?

A. 4:00 P.M.

Q. 4:00 P.M. How many trips did you make that day?

A. Up the schuylkill, you mean?

Q. Yes, sir.

A. I made two trips before the fire started.

Q. Before the fire started. Were they both in darkness?

A. One trip wasn't, it was daylight.

Q. One was still daylight, the other was in total darkness?

A. Yes.

Q. Now, during those trips did you observe any tankers docked at the Gulf Refinery plant loading or discharging?

A. I didn't notice, no, sir. It could have been, but I didn't notice.

Q. If I suggest to you that there were seven tankers at the dock would that refresh your recollection, at the docks along the Gulf Refining plant?

A. I couldn't remember seeing any there.

Q. You don't remember seeing any?

A. No, sir.

Q. You don't remember seeing any red flags as you came by on previous trips during the first voyage, in daylight?

A. On November 18, you mean?

Q. November 18, yes.

A. No, sir, I don't.

Q. You don't remember seeing any red lights as you came by on the later trip than darkness?

[fol. 94] A. No, sir, I don't.

Q. Were you looking?

A. Well, I might have been looking, but I don't remember seeing a light.

Q. Don't you know what that red light means?

A. Yes, I know what it means.

Q. What does it mean?

A. It means that the tanker is discharging petroleum or either taking it on.

Q. That means danger, doesn't it? It means you have got to be on the lookout, doesn't it?

Mr. Byrne: That is objected to.

The Court: Overruled.

Mr. Byrne: Sir, that is objected to. It is argumentative.

Mr. Freedman: Did the witness answer it?

The Court: I will overrule the objection.

By Mr. Freedman:

Q. Did you answer the question?

A. What was your question?

The Court: It means danger, and it means, it is a warning that you should be on the lookout?

The Witness: Yes, sir, I know that.

By Mr. Freedman:

Q. Yet you weren't on the lookout, were you?

A. Yes, I was.

Q. As a matter of fact, as you approached these tankers you left the bridge in charge of the deckhand and you went down to get a cup of coffee, did you not?

A. Yes, I did.

Q. On the two trips preceding the one when the accident happened, Captain, did you notice any particular odor in the air?

A. Nothing unusual then.

Q. What odor did you notice, usual or unusual, as you went by the refineries?

A. Well, it is just a petroleum odor. You can smell that any time you go by there. That's all.

Q. Now, on the trip where you came down with the loaded barge, the trip during which this unfortunate occurrence took place, immediately prior to the fire, did you detect any odor in the air?

A. No, sir, I didn't.

[fol. 95] Q. None at all?

A. No, sir.

Q. Nothing unusual?

A. No, sir.

By Mr. Freedman:

Q. Captain Taylor, coming down the river before the fire did you smell fumes?

A. No, I didn't, nothing unusual, no.

The Court: I can't hear you.

The Witness: No, sir, nothing unusual.

By Mr. Freedman:

Q. Didn't you smell any gasoline fumes?

A. No, sir.

Q. Are you sure you didn't smell gasoline fumes?

A. Yes, I am.

Q. Are you sure you didn't smell strong gasoline fumes?

A. It wasn't anything unusual.

Q. Well, I am not talking about usual or unusual, I am just asking you whether you smelled gasoline fumes.

A. No, sir, I didn't.

Q. Are you sure you didn't smell strong gasoline fumes?

A. No, I didn't.

Q. You did not?

A. No, sir.

Q. Usual or unusual?

A. I never smelled them.

Q. Do you remember testifying before the Coast Guard and you were asked that question?

Mr. Byrne: What page, Mr. Freedman?

Mr. Freedman: Page 9, questions 28 and 29.

By Mr. Freedman:

Q. Now, do you remember being asked this question:

"Q. As you got down to where you got to the fire could you smell any oil before you got into it?"

"A. I thought I smelled strong fumes, but it wasn't nothing unusual because you always smell fumes up the Schuylkill, so I didn't pay too much attention to them.

"Q. Referring to the smoke, when you first entered the fire was there any smell of that smoke you could identify as to what it came from or what was burning?

[fol. 96] "A. Well, the fumes, it smelled more like gasoline to me than anything."

Do you remember giving that testimony?

A. Yes, I remember it.

Q. Was it true?

A. Yes, it was.

Q. Then you take back—do you want to retract the testimony you gave before?

Mr. Byrne: I object to that.

The Court: Oh, it is perfectly proper. I overrule the objection.

You heard the question. He wants to know whether you want to take back the testimony you gave here that you didn't smell any fumes or that you didn't smell strong fumes.

The Witness: No, I didn't smell any. I don't remember just what I smelled, to tell you the truth.

By Mr. Freedman:

Q. You mean you are not retracting your testimony that you gave here a few moments ago?

A. I could have smelled them. I don't remember.

Q. Let me ask you, was the testimony which you gave before the Coast Guard the truth?

A. To the best of my knowledge it was.

Q. And was your memory fresher then than it is now?

A. Yes, sir, it could have been.

The Court: Well, yes, and if that was the truth then it is still the truth, isn't it?

The Witness: Yes, sir.

Mr. Byrne: If the Court please, since there is an interruption may I object at this time to going beyond the scope of the direct examination, and my point is this, sir: What occurred on the vessel that night is not a part of my burden, as I understand the law, in a limitation proceeding,

and at this point, since I think that the cross-examination is going beyond the direct, it is also getting into a phase of the case which is not properly here at this time.

The Court: Before I get to your point, I don't know what he was talking about then:

"As you got down to where you got into the fire could smell any oil before you got to it?"

Now, just what does that mean? "... got down to where you got into the fire." "I thought I smelled strong fumes, but it wasn't nothing unusual because you can always smell fumes up the Schuylkill, so I didn't pay too much attention to them."

Well, that was before the fire, wasn't it?

[fol. 97] The Witness: Yes, sir.

The Court: Before the fire started?

The Witness: Yes, sir.

The Court: Now, then, the next question is:

"Q. Referring to the smoke, when you first entered the fire was there any smell of that smoke ..."

That is all right, I understand.

Now, it is only a question of how we are going to get at it. It doesn't really make much difference whether it is brought out in your case or as part of Mr. Freedman's case, because even if you show a perfect case he is entitled to go into a defense, an answer to it, or whatever you call it.

Mr. Byrne: Yes, sir, but the burden, sir, is shifting. Do you see *see* what I mean?

The Court: Well, I think I can keep that straight enough. If it is not part of the case it won't have anything to do with your meeting your burden; it won't affect that question at all. I just think it makes very little difference when it is brought out.

Mr. Freedman: I was just going to say, Your Honor, this has a very direct bearing on Mr. Byrne's burden; what happened during the course of this incident determines very definitely whether the vessel was properly equipped and whether it was seaworthy in every respect and whether there was——

The Court: Well, that is pretty far fetched argument, too.

Mr. Freedman: Your Honor will see it as I develop it. I didn't want to get any more specific than that.

The Court: All right, go ahead. But it all has effect on the question of ordinary negligence of the Captain, which is an issue in the liability proceedings.

Mr. Freedman: That is right, sir, with which they have got to show lack of privity.

Mr. Byrne: No, no, must show lack of privity at the commencement of the voyage, not during it.

Mr. Freedman: No, no, no. That is not correct.

Mr. Byrne: That is very clear; that is very clear in the law.

The Court: Yes.

Mr. Byrne: Lack of privity or knowledge.

The Court: But suppose it appears that there is no privity but the boat was negligently operated?

Mr. Byrne: Then I am still entitled to limitation of liability.

The Court: Sure you are.

Mr. Freedman: Oh, no.

The Court: Yes, he is.

Mr. Byrne: Of course I am.

[fol. 98] Mr. Freedman: Will Your Honor reserve decision on that? I don't want to make the argument now because I want to develop some material.

The Court: Oh, yes, I will reserve decision on all of these things. That is all right. But all I say is that was my impression.

Mr. Byrne: It is certainly ours.

Mr. Freedman: All I ask is that Your Honor withhold decision.

The Court: All right, but I can sort out the testimony with regard to the burden of proof. I realize a good deal of it is not strictly within the scope of the direct examination. I don't know just which questions, but some of it—well, go ahead.

By Mr. Freedman:

Q. Now, Captain Taylor, I think you said before—

The Court: Excuse me. In other words, whatever of

this is not within the scope of the direct examination will not be considered part of Mr. Byrne's case but will be considered part of your case when you come to put it in.

Mr. Freedman: Well, in the final analysis that would be one way of looking at it, but I ask Your Honor to reserve judgment on that until I have an opportunity to show that this is in direct rebuttal to Mr. Byrne's burden. I mean, it is proper cross-examination to disprove what he alleges.

The Court: All right, I will reserve judgment on everything, as far as that goes.

By Mr. Freedman:

Q. Now, Captain Taylor, I think you said that as you approached the Gulf Refinery docks you left the bridge and went down for a cup of coffee?

A. Yes, sir, that's right.

Q. Can you place the time?

A. I would say that it was about ten minutes of ten.

Q. Of ten?

A. Yes, sir.

Q. P.M.?

A. Yes, sir.

Q. Did you have any replacement? I mean, did you command anyone else on the vessel to take your place on the bridge?

A. No, sir, only Donald Worrell, the deck hand.

Q. Will you please keep your voice up?

Mr. Byrne: I can't hear you, Captain.

The Court: Only what?

The Witness: Only Donald Worrell, the deck hand.

By Mr. Freedman:

Q. You called down for him to come up and replace you on the bridge?

A. I blew a whistle and he came up and I told him to hold the wheel while I got a cup of coffee.

Q. Then you went down to the galley?

[fol. 99] A. I went down to the galley.

Q. Who was down in the galley when you got there?

A. Harrington, the other deck hand.

Q. Did you get your cup of coffee?

A. Yes, sir, I got a cup of coffee and walked out of the starboard door of the galley and went back to the engine room.

Q. Inside the engineroom or out?

Mr. Byrne: Wait a minute, I didn't hear the last part of that. He went back to what?

The Court: The engineroom.

The Witness: I walked back to the engineroom, and the engineer, Arthur Mylan, was sitting there—sitting down in the engineroom.

By Mr. Freedman:

Q. Did you go into the engineroom?

A. No, sir, not at that time. I just talked to him from outside the deck.

Q. You stayed on the deck outside?

A. Yes, sir.

Q. Yes.

A. Then he came out on the deck, and we was talking about how late we was going to be getting off watch.

The Court: Speak a little louder. You drop your voice. Keep it up.

The Witness: We were talking about how late we were going to be getting off the watch.

The Court: Yes.

The Witness: The next morning.

The Court: All right.

The Witness: So then, maybe we was talking there two or three minutes, and just then I heard a rumbling noise.

By Mr. Freedman:

Q. Where did it come from?

A. It seemed to be coming from the bow of the tug down.

Q. From the bow of the tug?

A. Yes.

Q. On the tug or off of the tug?

A. From the water, it seemed to be.

Q. It came from the water?

A. Yes, sir.

Q. Near the scow?

A. Well, yes, on the port side, more like.

Q. On the scow side?

A. Yes, sir.

So then I asked Whiteie, I said, "What was that noise, Whitey?" So the next few seconds the explosion—it was like an explosion right in our face—flames all around us.

[fol. 100] Q. Now, when you say an explosion, are you talking about the rumbling, or are you talking about something that happened after the rumbling?

A. First the rumbling noise, and a few seconds after that, it was the fire.

Q. When you heard the rumbling, did you see any flash, any flame, or any light?

A. No, sir, I didn't. Just in a matter of seconds then the fire started, it was the fire.

Q. When you heard the rumbling, did you see any flash, any flame, any light?

A. No, sir, I didn't. Just in a matter of seconds then the fire started, it was all over the place, all over the boat.

Q. All around the boat?

A. Yes, sir.

Q. The water was aflame all around the boat?

A. As far as you could see, yes, sir.

Q. How long did you remain on deck there before you did anything?

A. Oh, it was just a few seconds, I would say.

Then Harrington, the other deck hand, came running down the deck towards the engineer and myself. Then I called the engineer to stop the engines.

Q. You were still on the outside on the deck?

A. Yes, sir, still on the deck.

Q. Yes.

A. The next thing I told the engineer—

Q. Did he stop them?

A. Yes, sir, he stopped the engine.

Then I told all of the rest of the crew to get inside the engineroom and close the hatches.

Q. Then what did you do? Where were you when you said that?

A. I was standing right by the engineroom door on the starboard side.

So we all got in the engineroom and closed all of the hatches.

Q. Who all got in the engineroom?

A. Harrington, the engineer, Mylan, and myself.

Q. The three of you?

A. Yes, sir.

Mr. Byrne: I thought he said four.

Mr. Freedman: Pardon me?

Mr. Byrne: I thought he said four.

The Court: Where was Bugoski?

The Witness: Bugoski was already in the engineroom when it happened.

Mr. Byrne: Could I be excused, Your Honor? I have an appointment before Judge Grim with another lawyer.

[Vol. 101] The Court: Yes, I have motions. I will hear the motions now. Make it as short as you can.

Mr. Byrne: Yes, sir. Is this a good time, Your Honor?

The Court: Yes, this is a good time.

(Short recess.)

Mr. Byrne: Thank you, Your Honor.

The Court: All right.

By Mr. Freedman:

Q. So that there were four of you in the engineroom when you went in and after you told the engineer to stop the engines?

A. Yes, sir.

Q. That you know of?

A. Yes, sir.

Q. Was there anyone else in the engineroom?

A. That is all, the four of us, so far as I know.

Q. Could you see the other three?

A. Not too clearly, you couldn't.

Q. Where was McGinley, the cook?

A. He had turned in in the after cabin. He was asleep in the after cabin.

Q. Did you make any effort to arouse him?

A. No, sir.

Q. Did you think that the situation was then dangerous?

A. I knew it was.

Q. You knew it was. And you felt that he was asleep in the cabin?

A. Yes, sir.

Q. Did you make any effort to put the fire-fighting equipment into operation?

A. I told the oiler, Bugoski, to turn the deck pump on.

Q. At that time? Before you went into the engineroom?

A. That was after we was in the engineroom, I told him to turn the——

Q. How long after you were in the engineroom?

A. Just a few seconds. I would say we was in there, and I told him to turn the deck pump on.

Q. Did he?

A. He tried to, but the engines had shorted out.

Q. Were you all inside the engineroom at that time?

The Court: Let him finish.

Mr. Freedman: I am sorry.

The Court: Go ahead and finish. He tried to but——

[fol. 102] The Witness: He tried to turn the deck hose on, but at that time it was shorted out. The generator must have stopped.

By Mr. Freedman:

Q. You are sure he did it then, or after you had left the engineroom?

A. He did it when I told him to.

Q. And when did you say he did it? How long were you in the engineroom then?

A. From the time the fire started, you mean?

Q. From the time you went in the engineroom.

A. I would say three or four minutes.

Q. Three or four minutes?

A. Yes, sir.

Q. That is when you told him to do it?

A. Yes, sir.

Q. Could you see him in the engineroom?

A. Not too——

Q. At that time?

A. Not too clearly, I couldn't, no.

Q. Did you hear Mr. Bugoski testify from the witness stand in this case?

A. Yes, I did.

Q. Did you hear his testimony regarding what your orders were while you were in the engineroom?

A. Yes, I heard him.

Q. And you didn't hear him give any—you didn't hear him say you had ordered the pump turned on, did you?

A. No, sir, I didn't.

Q. Do you disagree with him then?

A. I told him to turn the pump on.

Q. Do you disagree with his testimony?

The Court: Well, he does, of course, if he says something different from it.

By Mr. Freedman:

Q. Now, as a matter of fact, the smoke was so heavy in the engineroom after you went in that you couldn't even see more than a foot or so in front of you; isn't that true?

A. Yes, that's true.

Q. And you couldn't even tell who else was in the engineroom; isn't that true?

A. No, you couldn't tell who was in there, no.

Q. As a matter of fact, didn't McGinley come into the engineroom afterward?

[fol. 103] A. I did not see him, no.

Q. Was that because of the smoke?

A. It could have been, yes.

Q. So that you couldn't see what anyone else did, particularly Bugoski?

A. No, you couldn't. You couldn't see very clearly.

Q. So that when you said before that you saw him turn the switch, you were just assuming that; is that right?

A. Yes.

Q. You did not see him turn any switch, did you?

A. No, sir, I didn't, no.

Q. You did not see him at all, did you, after you went in the engineroom?

A. Yes. I seen him, but I couldn't swear it was him. I seen three figures. That was all.

Q. Now, after you got in the engineroom you gave an order to reverse—you first gave the order to batten down the hatches, is that right?

A. No, it was first to stop the engines, the first order.

Q. Well, did you give the order to stop the engines when you were outside the engineroom or inside?

A. When I was outside.

Q. Now let me ask you this, how long a period of time elapsed between the time you heard the rumbling and the fire and the time you went in the engineroom?

A. It was just a matter of seconds, I'd say.

Q. Would you say it was a minute?

A. Yes, I would say it was a minute, yes.

Q. After you got in the engineroom your first order was to batten down the hatches, is that correct?

A. Yes, that's right.

Q. That order was carried out, was it?

A. Yes.

Q. Your next order was to reverse engines?

A. That was the next order, yes, sir.

Q. Was that carried out?

A. Yes, sir.

Q. By whom?

A. By the engineer.

Q. Did you see him?

A. Well, I seen the figure of him. I imagine it was him.

Q. Could you tell from the movement of the vessel that the tug was put in reverse?

A. I know it was, yes, sir.

Q. You could tell from the movement, so even though you didn't see him you could tell that?

A. You could tell, yes, sir.

[fol. 104] Q. What was your next order?

A. Well, the engine was going back I imagine around two or three minutes, then I told him to stop, stop the engines. So when I told him to stop the engines it hadn't stopped yet so I reached over and I pushed one of the levers on the engine ahead.

Q. You told him to stop engines. I don't want to cut you off, Captain. Did he carry out that order?

A. No, sir.

Q. Do you know why?

A. No, I don't.

Q. Do you know what happened to him?

A. No.

Q. Did you have any idea what happened to him at that time?

A. I thought maybe the smoke had overcome him, maybe he fell down on the deck.

Q. You thought he fell down in the engineroom and that is why he didn't respond to your order, is that right?

A. That is what I thought, yes, sir.

Q. So you stopped the engines yourself?

A. Yes, sir.

Q. Then what did you say?

A. I hollered out for all the men to abandon ship.

Q. "Everybody overboard"?

A. Yes, sir.

Q. To the stern?

A. Yes, sir.

Q. You were the first man out?

A. I believe I was, yes, sir.

Q. Now, you thought that the engineer had fallen in the smoke and had been overcome. Did you make any effort to look for him before you went out?

A. No, sir, I didn't.

Q. Don't you think it was your duty as Captain to look out for the safety of the men under your command?

A. Yes, sir, I know it was.

Q. Did you order any search made for Mylan to see whether he was laying there overcome by smoke?

A. Not as I can remember, no, sir.

Q. How long did it take you to get to the stern after you gave the order to go overboard?

A. Just a matter of seconds, I would say.

Q. Did you wait to see if anybody else was coming out after you?

A. I thought that all of them was right behind me.

Q. Did you wait to see?

[fol. 105] A. I was on the stern a few seconds and the four of us was all on the stern together.

Q. When you got out of the engineroom did you wait to see if anybody was coming out after you?

A. No; I didn't.

Q. You went right to the stern?

A. Went right to the stern.

Q. Now, when you got to the stern did you say there were four of you there?

A. I thought I seen four of us, yes, sir.

Q. Are you sure?

A. No, I am not sure.

Q. As a matter of fact, you only saw McGinley there, isn't that true?

A. When I first went to the stern the only one there was McGinley yes, sir.

Q. And you found him putting a life jacket on, didn't you?

A. Yes, sir.

Q. And then you told him to jump overboard, is that correct?

A. That's right.

Q. And you followed him?

A. Yes, sir.

Q. Immediately?

A. Yes, sir.

Q. At that time was there anybody else on the stern? I want you to think about this now carefully.

A. As far as I can remember there was two of them on the stern.

Q. When you went overboard from the stern?

A. Yes, sir.

Q. Did you hear Bugoski's testimony yesterday?

A. Yes, I heard it.

Q. Did you hear him say that you had already gone overboard when he got to the stern?

A. Yes, sir, I did.

Q. You disagree with that?

A. I thought there was two men on the stern when I went overboard. I couldn't say who it was.

Mr. Freedman: Would Your Honor indulge me just for a second until I get a reference from the Coast Guard record, please?

Mr. Byrne: Judge Kirkpatrick? while Mr. Freedman is occupied, is it still understood that my general objection to the fact that this is not cross-examination within the scope of the direct and that it is not a part of the American Dredging or the petitioner's case still goes to all of this?

The Court: Oh, yes, all the way through.

[fol. 106] By Mr. Freedman:

Q. Captain, I direct your attention to the testimony which you gave to the Coast Guard, page 114,——

Mr. Byrne: Which question, Mr. Freedman?

Mr. Freedman: Question No. 53.

By Mr. Freedman:

Q. You were asked this question:——

Mr. Byrne: Hold it.

Mr. Freedman: Do you have the question, Mr. Byrne?

Mr. Byrne: I have the question.

Mr. Freedman: May I proceed, sir?

Mr. Byrne: Yes.

By Mr. Freedman:

Q. You were asked this question:

"Q. Would it be a fair assumption that you went out of the engineroom and right aft and boom over the side?"

Your answer:

"No, sir, I didn't do that. The cook was there. I told him to put his lifejacket on and jump in."

"Q. In the time that it took you to tell the cook to put his lifejacket on and jump did anybody else arrive at the stern?"

"A. No, sir. I didn't see anyone."

[Did you give that testimony?

A. Yes, sir, I guess I did.

Q. Was it true?

A. I thought it was two men on the stern when I went overboard.

Q. Was that testimony true that you gave to the Coast Guard, that you didn't see anyone?

A. No, sir, I don't think so.

Q. You say that was false?

A. Yes, sir.

Q. And you say now that you thought you saw two men there?

A. Yes, sir.

Q. You think your recollection is better now?

Mr. Freedman: Strike it out. I will withdraw it.

By Mr. Freedman:

Q. Captain Taylor, before you went into the engineroom, I think you said you remained on the deck about a minute. You could see the fire around you.

Mr. Byrne: That is objected to, sir. Mr. Freedman said that. The witness said a few seconds and Mr. Freedman said a minute.

Mr. Freedman: The witness said it was about a minute. If there is any question—

The Court: I thought he said so.

Mr. Freedman: I am sure he said so.

[fol. 107] The Court: He said that it was a matter of a few seconds and then he said a minute.

Mr. Freedman: Yes, sir, that is my recollection.

The Court: I think so, Mr. Byrne.

By Mr. Freedman:

Q. Now, during that period of time why didn't you make some effort to put the fire fighting apparatus into operation?

A. I didn't think just right then.

Q. You were confused?

A. Somewhat, yes, sir, I was.

Q. You didn't test the hose out then, did you?

A. Not until we went into the engineroom.

Q. Did you try to use the hand fire extinguishers anywhere?

A. No, sir.

Q. You personally didn't test the hose or try to put the hose on yourself at any time, did you?

A. No, I didn't.

Q. How long would you say you remained in the engine room before you went overboard?

A. About ten or fifteen minutes, I would say.

Q. Do you think it was that long?

A. I would say ten minutes.

Q. In the engineroom?

A. Yes, sir.

Q. When you first saw evidences of the fire don't you think it would have been good seamanship to turn the hose on and wet the ship down, particularly the wooden part of the ship?

A. Not in a fire like that I don't, no.

Q. Not even to try?

A. We didn't have time to try, it happened so fast.

Q. Did you get burned?

A. Just on my forehead, that's about all.

Q. Bad or a slight burn?

A. Slight burns.

Q. A slight burn. When did you get that?

A. I don't remember how I got it. During the fire some time, but I don't remember when.

Q. Did you try to launch the lifeboat at any time?

A. No, sir.

Q. When did you become aware that the ship and the crew were in peril, at what point?

A. Just as soon as I told the engineer to stop the engines.

Q. Did you order all the men to put on life belts?

A. No, sir.

Q. Now, when you went over the side did you have a life belt on?

A. No, sir.

[64-108] Q. I think you said McGinley did put one on?

A. Yes, sir, he had one on.

Q. You went over immediately behind him?

A. Yes, sir.

Q. Are you a good swimmer?

A. Pretty good.

Q. Were you a good swimmer then?

A. Yes, sir.

Q. How far can you swim if you have to?

A. I don't know. I have never—

Q. Can you swim 500 yards?

A. Yes, sir, I think I could.

Q. How far was it from the ship to the shore at that point?

A. Around—I would say it was around 400 or 500 feet.

Q. Didn't you tell—didn't you give us your testimony at the Coast Guard that it was about 250 feet?

A. I may have said that.

Q. You were about midstream?

A. Yes, sir.

Q. How wide is the river at that point?

A. I think it is around 600 feet. I am not sure how wide it is.

Q. Well, would you say that the distance from your boat to the shore to the point where you ultimately went was no more than 100 yards, less than 100 yards?

Mr. Byrne: That is objected to, sir. The witness says one thing and Mr. Freedman just changes it.

The Court: Well, he is merely asking him a question. I think the witness can answer.

The Witness: Would you repeat that, please?

By Mr. Freedman:

Q. Would you say that the distance from the boat, the "Herron" to the dock where you finally wound up was less than 100 yards?

A. No, sir. It wasn't less than 100 yards.

Q. You think it was more than 300 feet?

A. I think so; yes, sir.

Q. All right. I will come back to that in a moment or so. How much more do you think it was, your best estimate?

A. I would say it was about 400 feet.

Q. You think it was about 400 feet. All right, but you could swim, you said, 500 yards without any trouble; correct?

A. Yes, sir.

Q. Now, when you went over without a life belt, you only had approximately 125 yards to swim, didn't you?

[fol. 109] A. That's right, yes, sir.

Q. Now, after you were in the water, you called to McGinley, and you hung onto his life belt, did you not?

A. That's right.

Q. And you started to swim to the dock with him; correct?

A. Yes, sir.

Q. As you were swimming, did you hear cries of "Help" behind you from Mylan?

A. I heard cries of "Help" but I didn't know who it was.

Q. Didn't you think it was Mylan?

A. I thought it was.

Q. You called him Whitey, didn't you?

A. Yes, sir.

Q. What did you say to him?

A. I encouraged him to try to make it to shore.

Q. You hollered, "Come on, Whitey, come on," didn't you?

A. Yes, sir.

Q. You were hanging onto the life belt at the time, weren't you?

A. I was hanging onto McGinley's life belt.

Q. Yes. You could have made it to shore from there easily, couldn't you?

A. No, do you think—

Q. Couldn't you swim that distance?

Mr. Byrne: Let him finish that answer.

By Mr. Freedman:

Q. Were you finished? Let's hear what you have to say.

The Court: You said you couldn't because—

A. I couldn't. That is the reason I held on to the life jacket.

By Mr. Freedman:

Q. Why couldn't you make it?

A. I don't know. I was overcome by smoke. That is why.

Q. You were able to talk, weren't you? Why didn't you dispatch McGinley, who had a life belt, to go back and help Mylan instead of you holding onto him?

A. There was no one in that crew in no condition to help anybody at that time.

Q. McGinley had a life belt?

A. Yes.

Q. He could have helped Mylan if you had let him go, couldn't he?

A. No, he couldn't.

Q. That is your opinion?

A. That is my opinion, yes.

Q. In any event, you continued to swim on, hanging onto McGinley's life belt, and you swam to the dock without telling him to go back and help Mylan?

[fol. 110] A. That man was in no condition to help anybody.

Q. At the time when you called—when you heard Mylan in the water, where were you and where was he?

A. He was in the water, and so was I.

Q. Whereabouts in the water with respect to the boat and the shore?

A. I would say he was maybe 50 feet from the boat, if that was him.

Q. Between you and the boat?

A. I would say he was 50 feet from the stern of the tug.

Q. How far away were you?

A. Maybe 30 feet from him, 40 feet.

Q. From him?

A. Yes, sir.

Q. Would you say at that point you were about 100 feet away from the tug?

A. About 100, I guess it was.

Q. Isn't that what you said at the Coast Guard hearing?

A. I don't remember what I said there.

Q. I will refresh your recollection very soon. I will come back to it.

While you were down in the engine room, you say you realized that the tug was in peril and that the crew was in peril?

A. When I ordered the engineer to stop the engine, yes.

Q. Why didn't you order the wheelhouse to beach her?

A. Why what?

Q. Why didn't you order the wheelhouse to beach her?

A. Order the—

Q. Order the wheelhouse, the man in the wheelhouse, to beach the tug?

A. There wasn't any way I could get to the wheelhouse when that fire started.

Q. Pardon me.

A. It was impossible to get to the wheelhouse.

Q. There was a speaking tube in the engineroom, wasn't there?

A. Yes, sir, there was.

I knew there wasn't any use trying to get to that man in the wheelhouse. It was impossible.

Q. You don't think it would have been advisable at that time to order him to beach it?

A. I know it wouldn't.

Q. That is your opinion?

A. Yes, sir, that is my opinion.

Q. Was the barge burned?

A. Just the fender on it I think. I didn't notice it too much.

Q. She was carrying mud?

A. Yes, sir.

[fol. 111] Q. Why wasn't it safe on the mud?

A. Because you couldn't get out of the port door to get into the scow?

Q. Did you try?

A. Yes, sir.

Q. If only the fenders were burned, why couldn't you get on?

A. I tried to get on there as soon as I opened the port door, and the flames shot right in my face. That is why.

Q. When was this?

A. That was when we were in the engineroom.

Q. What point? Before you gave the orders or after?

A. The orders for what?

Q. These various orders you said before.

A. Well, it was during that time. I don't know exactly, but I tried to get out of the engineroom door. There wasn't any use. I tried to close—I had to close the door right away.

Q. When you went out on the stern, there was no fire, there, was there?

A. Yes, the hawser rack was burning, the hawser.

Q. Pardon me?

A. The hawser was burning on the hawser rack.

Q. That didn't bother you, did it?

A. It didn't help me any.

Q. It didn't hamper you any, did it?

Mr. Byrne: I object.

By Mr. Freedman:

Q. You could have gone where the stern was, and the barge was only 10 or 12 feet away, wasn't it, forward?

Mr. Byrne: Isn't that argumentative, Your Honor. I object to argumentative cross-examination.

The Court: Oh, it is all right. I will overrule the objection.

By Mr. Freedman:

Q. The barge, the rear end of the barge, was about 10 or 12 feet forward of the stern of the tug; isn't that correct?

A. That is about it.

Q. Then you went out on the stern and you could have gone on the barge around the stern at that time, couldn't you?

A. I could have, I guess, but I thought—

Q. Pardon me?

A. But I thought maybe the fuel tanks, the flames would get to the fuel tanks and none of us would get off the boat.

Mr. Byrne: Mr. Freedman, may I have a question and answer read to me, please?

Mr. Freedman: Surely, I want to hear the answer, too.

[fol. 112] (The reporter then read back the record as follows:—

"Q. The barge, the rear end of the barge, was about 10 or 12 feet forward of the stern of the tug; isn't that correct?

"A. That is about it.")

By Mr. Freedman:

Q. Is that why you were in such a hurry to get off?

A. Yes, sir, it is one of the reasons.

Q. Did the fuel tanks burn, or explode?

A. Not that I know of, no, sir.

Q. Do you know the circumstances under which they would burn or explode?

A. I am not too familiar with it, no.

Q. Sir?

A. I am not too familiar with it, no.

Q. Did the fuel tanks have any vents in them?

A. Yes, sir, they had vents.

Q. So that you know that they wouldn't explode if they had vents in them; you know that, don't you?

Mr. Byrne: If the Court please—

A. I didn't know it at that time, no.

Mr. Byrne:—that is objected to.

By Mr. Freedman:

Q. You didn't know it at that time. Do you know it now?

A. Yes, sir, I know it now.

Q. Why did you stop the vessel? When I say stop, I mean why did you give the order to reverse the vessel?

A. It seemed to me the flames was going out toward the stern of the tug. I thought maybe we could back out of the flames and stop the boat and some of us could get off.

Q. But don't you know that good seamanship requires you plow right through the flame; you have a better chance of going through the flame fast?

A. I didn't know where I was going there. It was at night. How could I know—

Mr. Byrne: I object.

The Court: Overruled.

By Mr. Freedman:

Q. What is your answer?

A. I wasn't going to keep those engines going full ahead like that when I couldn't see what was ahead of me.

Q. Do you know what good seamanship is under those circumstances?

A. No.

Q. Sir?

A. What is it? I don't know.

[fol. 113] Q. Do you know what the effect would be if you stopped the ship in that kind of a situation?

A. No, sir, I don't know.

Q. Do you know what the effect would be if you kept moving as rapidly as possible through that kind of a situation?

A. I know what the condition—

Q. Sir?

A. I know what it could do, what you could do.

Q. Well, I am asking you whether you know what the effect of going through that kind of a situation with your engines full ahead as you were going when you first encountered this fire would be?

Mr. Byrne: If the Court please, I want to object to this. If this witness is being asked his opinion, Mr. Freedman has to furnish certain basic essentials. If this fire is a mile deep—I think that is an assumption.

Mr. Freedman: Please don't make any suggestions.

Mr. Byrne: If you want me to do it at side bar, I will be perfectly glad to.

The Court: No, no. Go ahead and tell me what your objection is.

Mr. Byrne: My objection, sir, is to the form of the question which says, "Don't you know it is better to go ahead of you?"

That may be true under certain circumstances, if you have a thin wall of fire, but if you have a fire that is deep, you are only getting into greater difficulty.

Mr. Freedman: Are you—

Mr. Byrne: Well, there is no statement as to what the depth of the fire is, no groundwork laid for that question. I think it is erroneous to ask that witness that question because, remember, this is not within the scope of the cross-examination at this point. This is Mr. Freedman's.

The Court: Well, his answer would be that it may or may not be good seamanship. He can say that as well as anybody else can. It all depends on the circumstances.

Mr. Byrne: Mr. Freedman is talking, not to these circumstances, but to this occasion, and that, I think, is improper.

The Court: You think it is improper?

Mr. Byrne: Yes.

The Court: Oh, I think it is all right.

Mr. Freedman: I can't see how it could be more proper than to direct it under these circumstances.

Mr. Byrne: Well, there are ways of fair examination and unfair examination. I think this is of the unfair type.

Mr. Freedman: Your Honor has—

The Court: I don't agree with you.

Mr. Byrne: All right.

[fol. 114] By Mr. Freedman:

Q. Did you answer the question, Captain Taylor?

A. I didn't.

Q. Would you please do so?

A. Would you repeat it again, please?

Q. I will try to rephrase it.

The Court: He wants to know whether it was bad seamanship to reverse, rather than to go straight ahead and try to get through the fire.

The Witness: I think it is better reversing the engines myself.

The Court: Why do you say that?

The Witness: Because I couldn't see where I was going ahead of me. If you run a flaming tug into a barge or a dock ahead of me. If you run a flaming tug into a barge or a dock, it wouldn't be very good seamanship, either.

By Mr. Freedman:

Q. That is your answer, then.

A. Yes, sir.

Q. How long would you say the vessel went back in reverse?

The Court: How long or how far; how long in time or in distance?

By Mr. Freedman:

Q. How long a time?

A. I would say ten minutes.

Q. Ten minutes.

A. (Witness nods head.)

Mr. Freedman: I will come back to that a little later as I go through the Coast Guard records, so I don't have to hunt for it now.

By Mr. Freedman:

Q. Do you recall the testimony that you gave to the Coast Guard regarding the period of time that the engines were in reverse?

Mr. Byrne: Page, please, Mr. Freedman?

Mr. Freedman: Page 7 and 8.

By Mr. Freedman:

Q. Do you remember making this statement:

"So I guess the engine was going back about three minutes."

A. I don't remember it.

Q. Do you deny that you made that statement?

A. No, sir.

Q. Was it true when you made that statement?

A. I guess that is about what it was, three minutes.

Q. Sir.

A. About three minutes is what it was.

Q. You think it was three minutes?

A. Yes, Sir.

Q. Well, your testimony before that it was ten minutes, then, is in error, is that correct?

A. Yes, sir.

[fol. 115] Q. When you related to the Coast Guard people what your orders were in the engine room, did you tell them that you had at any time ordered the hose turned on?

A. I don't remember.

Mr. Byrne: Sir, I don't think that is proper cross-examination, that it is a conflict between a prior statement which is inconsistent.

The Court: Well, it depends on what the circumstances were.

Were you asked the question?

The Witness: I don't remember.

By Mr. Freedman:

Q. They asked you what orders you gave, didn't they?

A. I don't remember.

Q. Didn't they ask you what orders you gave? Don't you remember that?

A. What, about turning the—

Q. They asked you to tell everything that happened in the engineroom and all the orders that you gave, didn't they ask you that?

Mr. Byrne: I will object to this. They did not. If you want me to read about the—

Mr. Freedman: Let the Judge read the whole record. You have to cull it out of the whole record. He was given more than ample opportunity to answer that question.

Mr. Byrne: If you want to read the seventh line on page 8 you will find that your so-called confrontation isn't confrontation.

By Mr. Freedman:

Q. Did you at any time tell the Coast Guard that you gave any orders? Did you?

A. About the deck pump?

Mr. Byrne: I object, sir. If you are going to confront a witness, read him the statement. Now, if you want to read page—

Mr. Freedman: Mr. Byrne—

The Court: I don't think that the matter is important enough.

Mr. Freedman: Very well.

The Court: I really don't. You are taking a lot of time on it.

By Mr. Freedman:

Q. Captain Taylor, do you remember giving this testimony to the Coast Guard—page 14, questions 76 and 77?

"Q. About how much distance did you have to swim?

"A. I would say about 200, between two and three hundred feet maybe.

"Q. Was it half the width of the river?

"A. I guess so. Yes, it was about midstream, I imagine, when we jumped.

Did you give that testimony?

A. Yes, I remember that.

[fol. 116] Q. Was it correct?

A. I couldn't say just exactly how many feet it was.

Q. Well, did you tell the truth when you gave that testimony?

A. As best as I knew of, yes.

Q. And you think it is the truth?

A. As far as I know. I couldn't tell you exactly how many feet it was.

The Court: Can't we make a little better progress than we have?

Mr. Freedman: I am skipping a good deal of it, Your Honor, to shorten it, and I will be through I think pretty soon. The only reason for the short delay is that I am eliminating as much of this as possible.

By Mr. Freedman:

Q. Would you say that you were confused during the time as soon as you heard the rumbling to the time you went off the stern?

A. Yes, sir, I was confused.

Q. You were confused, were you not?

A. To a certain extent I was.

Q. And that was really why you didn't think to look after the two men that were lost in this fire?

Mr. Byrne: That is objected to.

By Mr. Freedman:

Q. Isn't that correct?

Mr. Byrne: That is objected to.

The Court: Overruled.

A. Yes, sir, that is right.

By Mr. Freedman:

Q. Do you know when the fire extinguishers had been checked?

A. No, I don't. I don't know when they was checked last.

Q. As far as you know were they ever checked?

A. As far as I know they wasn't.

Q. You never knew them to be checked or weighed, did you?

A. No, sir.

Q. To determine whether they had enough material inside?

A. No, sir.

Q. Was your clothing burned at all, Captain?

A. Nothing to amount to anything.

Q. Would you say that the freeboard of the vessel was somewhere around two and a half to three feet?

The Court: On the vessel or—

Mr. Freedman: On the scow I meant, Thank you, sir.

A. Two and a half to three feet I should think.

By Mr. Freedman:

Q. That was your freeboard?

A. Yes, sir.

[fol. 117] Q. I think you did say that no effort was made to use the fire extinguishers, did you not?

A. No, there was no effort as I know of.

Q. And you never gave any order to use them?

A. No, sir.

Q. Just one more thing, Captain Taylor. I asked you before about the distance that you were from the tugboat

and from where Whitie, the engineer, was in the water. Do you remember being asked these questions and giving these answers in that connection, at page 150, questions 59 and following:

"Q. How far away from the stern of the tugboat were you?

"A. At that time I guess one hundred feet.

"Q. How far away from the stern of the tugboat was Whitie?

"A. It seems to me if it was Whitie, around thirty feet, I guess.

"Q. Was there any flame between you and Whitie?

"A. No, sir.

"Q. Was there any flame between you and the tugboat?"

"A. No, sir, not at that time. The only flame there was before we jumped over, it was dying out in blotches, that is all there was after I was in the water, there was none as I seen."

Was that testimony correct?

A. Yes, sir.

Mr. Freedman: That is all.

Mr. Byrne: If the Court please, in view of my position in this matter I do not intend to reexamine this witness at any time, unless Your Honor rules to the contrary, on any matter that was covered by Mr. Freedman which was beyond the scope of my direct examination. If I have to call this man later I shall do so.

The Court: All right, I have no objection to that.

Mr. Byrne: I would like to offer into evidence at this time all of the exhibits which have been marked for identification by me. They run from I through 19-P.

Mr. Freedman: No objection.

(Petitioner's Exhibits 1 through 18 inclusive and Petitioner's Exhibits 19A through 19P inclusive, were received in evidence.)

Mr. Freedman: Are you through with Mr. Taylor?

Mr. Byrne: Yes, I am through.

(Witness excused.)

Mr. Byrne: The petitioner rests as regards its initial burden, sir.

[fol. 118]

CLAIMANTS' EVIDENCE

WILLIAM WALLACE, having been first duly sworn, was examined and testified as follows:

Mr. Freedman: If the Court please, before I proceed with this witness, I wish to offer in evidence the following admissions and answers to interrogatories made by the Gulf Oil Company in response to interrogatories propounded by the plaintiff here. It is in another action, and technically they may not be admissible here, but I understand that Mr. Byrne will agree to their admission into evidence without formal proof.

Mr. Byrne: I made a statement already on the record to that effect, sir.

Mr. Freedman: And it is on the basis of that statement that I said what I did.

The statement which is admitted is as follows, and I offer it in evidence:

The following tankers and barges were processed at Gulf Oil Refinery docks located on the Schuylkill River southeast of the Penrose Avenue Bridge, on or about November 18, 1952:

No. 2 Spillway, the M/V GULFWING, Length 533 feet—

The Court: I don't think you need to read that. Tell me how many there were.

Mr. Freedman: There were one, two, three, four, five, six, seven—there were seven altogether.

I thought perhaps Your Honor might want to hear it because I am also going to offer it in evidence the nature of the cargo which might make a difference.

The Court: Well, if you think it is necessary.

Mr. Freedman: Yes, Your Honor, I think so.

Capacity, 120,000 barrels. It was discharging. Arrived on 11/19 at 10:30 A.M., started at 11:40 a.m., finished at 7:20 P.M., on 11/19. CL 8:05 P.M.

Captain, what does CL mean?

Mr. Byrne: Cleared.

The Witness: Cleared.

Mr. Freedman: Cleared. Thank you, sir.

Cleared 8:05 P.M.

At the No. 4 Spillway—if Your Honor please, if your Honor will refer to the Chart that I put on the bench yesterday you can see where these spillways are located.

The Court: Are these the Gulf—

Mr. Freedman: These are the Gulf ships and the Gulf docks. (Indicating)

The Court: All right.

[fol. 119] Mr. Freedman: You may have a little trouble finding these spillways. I know I did. Perhaps I can save Your Honor a little time.

This is the number one, two, and three (indicating).

Mr. Byrne: Judge Kirkpatrick, with reference to the map which you have before you, could we borrow it over the noon hour for the purpose of having it further.

The Court: Oh, surely.

Mr. Freedman: I have no objection. May I say that I offer that map in evidence so that it is definitely in. You have your objection, do you, Mr. Byrne? That map was furnished by the Gulf Oil Company in response to interrogatories and motions to produce.

Would the reporter mark it?

The Court: Don't bother marking it. Go ahead.

Mr. Freedman: At the No. 4 Spillway, there was P/B YACONA length 250 feet, approximately; capacity 12,000 barrels. Loading. Arriving 12:00 P.M. 11/18. Started 3:10 P.M. Finished 1:30 A.M. on 11/19. Cleared 2:15 A.M.

No. 5 Spillway, Barge INTERSTATE No. 12. That should be number 3, shouldn't it, Mr. Byrne?

Mr. Byrne: The next one shows INTERSTATE No. 3.

Mr. Freedman: Mr. Edwards is here representing Gulf, sir.

The Court: All right.

Mr. Freedman: At the No. 5 Spillway—these are the original answers. I think No. 12 is right, according to the later information. I will go ahead on that assumption unless we find information to the contrary.

Capacity 15,000 barrels. Loading. Arrived 12:45 P.M. 11/18.

Started at 1:20 P.M.; finished 6 P.M. Cleared 7:25 P.M.

At the No. 6 Spillway, there was the Barge INTERSTATE No. 3. Length 200 feet, capacity 13,000 barrels. Loading. Arrived 11/18, 7:45 P.M. Started 8:50 P.M. Finished 5:20 A.M. 11/19. Cleared 6:35 A.M.

At No. 8 Spillway, the SS GULFLUBE, length 480 feet, capacity 100,000 barrels. Discharging and loading. Arrived 11/18, 9:45 A.M. Started 11 A.M. Finished 2 A.M. 11/19. Reloading 11/19. Cleared 3:15 p.m. 11/20.

Mr. Edwards: May I interrupt you there?

Mr. Freedman: Yes.

Mr. Edwards: There is an interruption to the GULFLUBE. The time it first finished, the time you have it started 11 A.M. and finished at 2 P.M. It should be 7 P.M.

Mr. Freedman: Let's see, instead of 2 P.M., it should be 7 P.M.?

Mr. Edwards: 7 P.M.

Mr. Freedman: Thank you.

Mr. Byrne: Is this the same day?

Mr. Edwards: 11/19.

[fol. 120] Mr. Freedman: Everything else is all right?

Mr. Edwards: Everything else is all right.

Mr. Freedman: Thank you.

At the No. 9-Spillway, there is the SS PUEBLO, length 380 feet, capacity 38,000 barrels. Loading. Arrived 11/18, 6:30 P.M. Started—

Mr. Edwards: Can I interrupt you there?

Mr. Freedman: Surely.

Mr. Edwards: That should be arrived 11/17, 6:30 P.M.

Mr. Freedman: 11/17, 6:30 P.M. Started 9 P.M. Finished 5:40 A.M. on 11/18. Cleared 1:25 A.M.

The Barge INTERSTATE No. 4, length 200 feet, capacity 13,000 barrels. Loading. Arrived 3:55 P.M. Started 5:50 P.M. Finished 11:25 P.M. Cleared 12:25 A.M. 11/19.

Mr. Edwards: On that, the Barge INTERSTATE No. 4, the date of its arrival was inadvertently left out. It arrived at 3:55 P.M. on 11/18.

Mr. Freedman: It arrived at 3:55?

Mr. Edwards: 3:55 P.M. It should be inserted that was on 11/18.

Mr. Freedman: 11/18 at 3:55 P.M.

At the No. 11 Spillway was the P/B NO NOX, length 200 feet. Capacity 10,000 barrels. Arrived 11/18, 9:50 P.M. and she was idle.

The only other barge that was there was the barge they had tied up to the dock, DELAWARE. She was idle.

Mr. Freedman: At the No. 2 Spillway the "Gulfwing" was discharging Western Crude.

At the No. 4 Spillway the "Yacona" was loading No-nox and Good Gulf gasoline.

At the No. 5 Spillway the barge "Interstate No. 12" was loading No. 2 fuel oil.

That should be barge "Interstate No. 3," am I correct, Mr. Edwards?

Mr. Edwards: Give me the spillway, Mr. Freedman.

Mr. Freedman: At the No. 5 Spillway.

Mr. Edwards: That is the barge "Interstate No. 12."

Mr. Freedman: What is this, this additional information that Mr. Carter reported?

Mr. Edwards: I am showing you from the records. See, here? Barge "Interstate No. 12."

Mr. Freedman: I will refer to the supplemental interrogatories, maybe that will help.

[fol. 121] (Discussion off the record.)

The Court: Gentlemen, it has taken nearly a half hour to do something that should have been done before we got to court.

Mr. Freedman: All right, sir.

At the No. 5 Spillway was loading No. 2 fuel oil.

Mr. Byrne: Which boat was that?

Mr. Freedman: The barge "Interstate No. 12."

No. 6 spillway, the barge "Interstate No. 3" was loading No-nox and Good Gulf gasoline—No-nox is high octane gasoline.

No. 8 Spillway, the "Gulflube" was discharging on the 18th a mixed cargo of paraffin, sulfur, nap-tha, and so on.

No. 9 Spillway, the "Pueblo" was loading No. 6 fuel oil. And also at that spillway the barge "Interstate No. 4" was loading No. 5 fuel oil.

At No. 11 Spillway the P/B "No Nox" was idle.

Now, one more thing I would like to offer. The cargo which these vessels previously carried may become relevant, and in that connection we have further answers to interrogatories. You can see those, Mr. Byrne.

Mr. Byrne: But, Mr. Freedman, I understand now that that is the barge "Interstate No. 2" not "Interstate No. 3"?

Mr. Freedman: Well, we will let Mr. Edwards answer that.

Mr. Edwards: That is correct.

Mr. Freedman: This should be 12, the way it was originally?

Mr. Edwards: Yes, sir.

Mr. Freedman: You mean Mr. Carter was wrong in correcting it?

Mr. Edwards: Yes, sir.

Mr. Freedman: As long as we get it straight it doesn't make any difference to me whether it is 12 or 3. It should be 12.

All right. On the previous voyages the "Yacona" had previously loaded aviation gasoline, Good Gulf gasoline and No-nox gasoline.

On the previous voyage of the barge "Interstate No. 12" it had loaded kerosene, Good Gulf gasoline and No-nox gasoline.

Mr. Byrne: Mr. Freedman, at that point are you in a position to state for the record what proportion of kerosene was on the barge that you have just referred to?

Mr. Freedman: I would have to call on Mr. Edwards for that.

Mr. Edwards: I do not know that, sir.

Mr. Freedman: And the "Pueblo" on the previous voyage had been loading No. 6 fuel oil or had been carrying No. 6 fuel oil, Bunker "C" or a heavy residual fuel oil.

And on the previous voyage the barge "Interstate No. 4" had No. 6 fuel oil—Bunker "C" or a heavy residual fuel oil.

[fol. 122] By Mr. Freedman:

Q. Captain Wallace, by whom are you employed?

A. Gulf Oil Corporation.

Q. How long have you been employed by that company?

A. Over 35 years.

Q. In what capacity?

A. Presently I am known as a relief mate, but I hold a master's license and first-class pilot's license.

Q. How long have you been going to sea, sir?

A. 39 years.

Q. You say you hold a master's license?

A. Yes.

Q. How long have you held a master's license?

A. About 14½ years.

Q. Have you been sailing on tankers?

A. Yes, sir.

Q. How long?

A. Practically continuously since 1922.

Q. And you have sailed as master on tankers?

A. Yes, sir.

Q. You are familiar with petroleum products?

A. Yes, sir.

Q. Are you familiar with the regulations and practices controlling the transportation and handling of petroleum products?

A. Yes, sir.

Q. On November 18, 1952, were you employed by the Gulf Oil Corporation?

A. Yes, sir.

Q. And will you tell us again, please, in what capacity?

A. I was relieving as mate in charge, full control of the vessel "Gulfwing."

Q. "Gulfwing"?

A. That was tied up at No. 2 Spillway.

Q. Now, what time did you go on duty, Captain?

A. Oh, I would have to go back—maybe 2:30, I mean 3:30, quarter to four in the afternoon.

Q. In the afternoon?

A. Yes, sir.

Q. And were you on duty between 9 and 11 o'clock that night?

A. I was on board until she left.

[fol. 123] Q. Now, what was your vessel, the "Gulfwing" doing? I think there is in evidence already—

A. We were discharging Western Crude from Venezuela.

Q. I see. Now, was she displaying any signals?

A. Yes, sir.

Q. What kind of a signal was she displaying?

A. When I went aboard, of course, it was daylight and she was flying Baker. That is the red flag.

Q. Will you speak a little more slowly, please? Give us that again.

A. She was flying Baker, the red flag, the danger flag, which is compulsory on all vessels which are handling explosive products. And at nighttime or after sun-set or at sunset I turned on the red light and had the quartermaster pull down the red flag. The red light is—

Mr. Byrne: Captain, I can't quite hear you. I am going to ask Mr. Harris to read me your last answer.

(The last answer was read by the reporter.)

A. (Continuing) —is an electric light. It is in a vapor-proof and gasproof glass container which has on the outside of it a metal screen to prevent that glass being broken.

By Mr. Freedman:

Q. Where is that light located on your vessel, Captain?

A. That is on the "Gulfwing" situated on what is known as the conning bridge. That is the bridge above the regular navigation bridge. It is situated in almost the center of the vessel at an approximate height at 12 feet above the conning deck bridge.

Q. Could it be clearly seen by passing vessels on the river?

A. Definitely.

Mr. Byrne: Objected to.

The Court: Overruled.

A. It could be definitely, because the rules calling for that light say it shall be in a conspicuous place where it

may be seen all around the horizon on a dark night with a clear atmosphere.

Mr. Byrne: I move to strike.

The Court: Well, the rules are unimportant but the fact is that there was nothing to obscure anybody's view of the light, is that right?

The Witness: That is correct, sir.

The Court: Strike out about the rules. That doesn't make any difference.

By Mr. Freedman:

Q. Now, were you able to see whether any of the other vessels that were then at the dock were showing any lights after dark?

A. Well, the only one I could really swear to would be the "Gulflube," because she was approximately the same height as we were. The barges right in front of us would naturally be a lot lower because the "Gulfwing" was pretty light at that time, which would put her approximately 40 to 45 feet above the water.

[fol. 124] The Court: Well, now, the "Gulflube," was she showing any lights?

The Witness: Yes, sir, definitely.

The Court: What lights?

The Witness: She was showing the red light.

By Mr. Freedman:

Q. And was that light clearly visible to passing craft on the river?

A. Oh, definitely. You see, if you look at the chart, the dock is built on an angle, and looking right across there I could look right onto her bridge.

Q. Captain, are you able to state what that red light is there for and what its significance is?

The Court: I think he has said that.

The Witness: I will repeat if you wish.

The Court: He said that. There is no use asking him twice.

By Mr. Freedman:

Q. Now, captain, does it have any significance to passing craft?

A. Yes, it tells them that the ship has a cargo of an explosive nature, but not necessarily a cargo, it could be empty; but that at the same time the ship would be in explosive condition, so therefore she should and probably would have the red light.

Mr. Byrne: Now, I must ask that that be stricken, sir.

The Court: Well, you wouldn't let him state what the rule was. Now, how is he going to prove it?

Mr. Byrne: Probably? The witness can never tell probably, sir.

The Court: What?

Mr. Byrne: I never heard of a witness being able to say what probably was.

Read me the last answer, please, Mr. Harris.

(The last answer was read by the reporter as follows:

"A. Yes, it tells them that the ship has a cargo of an explosive nature, but not necessarily a cargo, it could be empty, but that at the same time the ship would be in an explosive condition, so therefore she should and probably would have the red light.")

Mr. Byrne: Oh, well, I withdraw the objection. It is immaterial. I heard the word "probably" and I——

The Court: Yes, all right.

By Mr. Freedman:

Q. Are you able to state whether or not it was a warning of any sort to passing craft?

Mr. Byrne: Objected to.

The Court: He has already said it, Mr. Freedman.

By Mr. Freedman:

Q. Now, Captain in your opinion would it be safe for [fol. 125] any passing vessel to carry a flame, an open flame, when coming within the vicinity of a vessel carrying a red light at a refinery?

Mr. Byrne: Objected to.

The Court: Well, I think that requires more qualification as an expert than he has given us. That is an opinion that should be based on some degree of qualification, that is, so far as it is beyond the power of the Court to tell.

By Mr. Freedman:

Q. Do you understand the question, Captain?

A. Yes, definitely.

Q. Would you please answer it?

Mr. Byrne: Oh, no, don't answer it.

The Court: I have sustained the objection at the present time. Find out what he knows about the explosive character of the product and so forth.

Mr. Freedman: Surely.

By Mr. Freedman:

Q. Captain, are you familiar with the characteristics of the petroleum products that you handled and that are handled at the refinery?

A. Just basically.

Q. Are you familiar with the dangerous characteristics of the various gasolines, their volatility?

A. Offhand, I couldn't quote them to you.

Mr. Byrne: Wait a minute. Objected to.

Mr. Freedman: I will rephrase it.

By Mr. Freedman:

Q. Captain, in the course of your experience as a master did you handle many cargoes of petroleum?

A. Yes, sir, many and practically every grade that there is made.

Q. And are you familiar with the various gases which come out of the petroleum in the course of their handling, loading and discharging?

A. Only roughly. There are thousands. I couldn't tell you them all.

Q. But from your experience do you know whether gases

come out of the handling, in the course of the handling of the petroleum products?

Mr. Byrne: Objected to.

The Court: I will overrule that.

By the Court:

Q. From your own experience do you know whether there is vapor and gas and so forth?

A. Yes, sir. When you are loading gasoline you are doing it under pressure, but that pressure is vented in such a way that it is absolutely safe to work around the ship at the loading time. The gases are carried so high above the general atmosphere that it is safe to work in those conditions.

Q. You do have pressure; a pressure mechanism?

A. Yes, sir. It is called a Vac-rel mechanism.

[fol. 126] Q. What does that do exactly?

A. It is a system, a pipe comes from the tank, 3 to 4 inches in diameter, which goes into a main feed pipe and into this feed pipe there is a box which has a 3-pound weight on it. Now, as the pressure in the tank increases it lifts that weight, which allows the gas to go into a lateral line which goes along then up the mast, and then it is vented about 30 to 40 feet above the deck of the vessel.

Q. I see. It is vented under pressure?

A. Under pressure.

Q. So it goes still higher?

A. Higher, yes, sir.

Q. That is ordinarily done in loading?

A. Yes, sir.

By Mr. Freedman:

Q. Do you have any signs on the vessel regarding lights or matches, or anything of that sort?

A. Yes, sir. It is a rule of the Port Authorities that at the gangway there is a sign posted "No Visitors—No Open Lights." That is posted right at the head of the gangway.

Q. How about smoking?

• A. Well, naturally I assume that.

Mr. Byrne: I can't hear you, Captain.

The Court: He assumes naturally.

The Witness: Pardon me.

By Mr. Freedman:

Q. Captain, would you say that it is safe from your experience in the handling of petroleum products for a passing craft to carry a kerosene lamp in going by the refinery?

Mr. Byrne: Don't answer that, Captain. I object.

By Mr. Freedman:

Q. Where a ship is located carrying a red light.

Mr. Byrne: Objected to.

The Court: I think that is a question for the Court.

Mr. Byrne: It is certainly a question for someone with a whole lot better qualifications than have been proven now.

The Court: Well, yes, and I think if the explosive nature and the behavior of the gasoline vapor and petroleum vapor is shown, as to whether it is dangerous or not, that is something that any layman can form an opinion on.

Mr. Byrne: Please don't yet, Judge Kirkpatrick.

The Court: No, no. I say if it is shown. It must be shown, the characteristics. I didn't say that my opinion would be that it would be dangerous, but it is a matter which the Court or a jury could perfectly well determine for themselves.

[fol. 127]

By Mr. Freedman:

Q. Captain, would you say it is good seamanship for a captain to leave the bridge of his vessel to a deckhand when passing a refinery where a vessel is docked showing a red light?

Mr. Byrne: Objected to.

The Court: I will take that subject to the objection.

Mr. Byrne: If the Court please, may I state the reason for my objection?

The Court: Yes, surely.

Mr. Byrne: This man's experience has been on tankers, which are tremendous vessels, probably 500 feet or more

long, probably between eight and ten or 12,000 tons with crews of 40 or so.

The Court: I have no doubt you will bring that out in cross-examination.

Mr. Byrne: But he has no experience on tugs.

The Court: All right. I say you can bring that out as affecting the value of his opinion. But it is a general question of seamanship. I will take it subject to your objection anyhow.

By Mr. Freedman:

Q. Do you understand the question, Captain?

A. Yes.

Q. Will you please answer it?

A. Under those circumstances I would say no.

Q. Why not?

Mr. Byrne: Objected to.

The Court: It is overruled—or the same ruling.

A. One of the requirements necessary in obtaining a license from the United States Coast Guard, one of the questions that you do get is under what conditions are you allowed to leave the bridge or should you leave the bridge, and the answer to that is only at such times as you are relieved by another licensed officer.

By Mr. Freedman:

Q. Now, Captain, assuming that a tugboat—are you familiar with the tugboat “Arthur N. Herron”?

A. I have seen her running up and down the river, yes.

Q. Assuming the tugboat “Herron” coming downstream approaching the Penrose Ferry Bridge encountered suddenly a fire on the water all around it. Now, let me ask you first, would it be good seamanship to stop the tug as soon as she encountered the fire on the water and reversed her?

Mr. Byrne: Objected to.

The Court: Well, it all depends on the character of the fire. I mean, I don't know whether the captain has enough data before him to answer that question.

[fol. 128] Mr. Freedman: May I ask one more question?

By Mr. Freedman:

Q. Did you hear the testimony of Captain Taylor yesterday, Captain?

A. Yesterday's testimony, yes, sir.

Q. Did you hear the testimony of Mr. Bugoski the day before?

A. That was from the written testimony.

Q. I think the testimony was along these lines:

Mr. Byrne: Objected to.

The Court: No, I can't very well—well, all right, I suppose you can put a hypothetical question to him. Don't—

By Mr. Freedman:

Q. Assuming that this vessel as it was proceeding down the Schuylkill River, as it was proceeding down suddenly the water caught fire or there was a fire on the water occurred and suddenly there were flames all around, completely around the tug and the tow. At that point, as soon as the captain on the vessel saw the flames all around, some of them as high as 30 feet, would you say that it was good seamanship for the captain at that point to stop the vessel and reverse her?

Mr. Byrne: Objected to.

The Court: Well, I will take that subject to your objection.

A. Well, of course, this is being Monday morning quarterbacking.

The only way I could answer that would be I know the river and its conditions. It forms like a letter S with the two ends pulled apart giving you a long open loop at each end.

In 1926 or '25, I am not sure which, I was in Port Arthur, Texas, and the river was the same as the Schuylkill. There is a public bridge going over that river and the Sabine River drains from the oil fields.

Mr. Byrne: If the Court please,—

A. (Continuing) At about 5:30 in the afternoon—

Mr. Byrne: Hold it a minute. Is this in answer to that question?

The Court: No, I don't think it is.

Mr. Byrne: I object and ask that it be stricken.

The Court: I think I will strike that out.

By the Court:

Q. Let me ask you a question or two. Doesn't the whole thing depend on the extent of the area that is on fire, of the area of the water? In other words, if the fire extended a half mile in front of him and only 100 feet behind him, it certainly wouldn't be good seamanship to go on and plow through the fire, would it?

A. Naturally, that is why I was giving you an illustration.

Q. I know, but I don't think we can take that. But the point I am making or what I am asking is whether the whole thing doesn't depend on the extent of the fire and the direction in which it lies and how much of it there is. Isn't that so?

A. Yes, sir. It depends on—

Q. You can't make a general statement, can you?

[fol. 129] A. I know we had a flood tide at that time and the wind was in a general southeasterly direction, which would tend to blow whatever flame was on top of the water up the river or to the dock rather than from the Jersey side.

Q. Well, that is a reason.

A. So therefore I would proceed from my past experience to go ahead into the tide so that the tide would take the flame away from me, rather than stop and drift with the flame.

Q. But it is conceivable that that might be exactly the wrong thing to do?

A. Yes, sir, definitely.

Q. If the fire was extending far enough.

A. Yes, sir.

The Court: All right.

By Mr. Freedman:

Q. Let me ask you this in another way. Does good seamanship require a vessel to go through the flames in that situation or to back away from them?

Mr. Byrne: Objected to.

The Court: Oh, I think—

Mr. Freedman: As a general rule.

The Court: I don't think you can apply a general rule to a situation like this.

Mr. Freedman: Well, if t-ere is one, Your Honor.

I will withdraw it.

The Court: I will sustain the objection because I think it has been answered completely in all particulars, really.

Mr. Freedman: That is all, cross-examine.

Cross examination.

By Mr. Byrne:

Q. Captain, I have a few questions. You were on the bridge of the "Gulfwing" that evening?

A. Yes, sir.

Mr. Byrne: May I have the map that the Court has, please?

The Court: The map?

Mr. Byrne: Yes, please.

By Mr. Byrne:

Q. Did you observe this fire on the Schuylkill River, Captain?

A. Only the flame.

Q. Well, the flame?

A. Yes, sir.

Q. You were below the Penrose Ferry Bridge?

A. Definitely.

Q. About how far? You were at what spillway, Captain?

A. No. 2, right near the grain elevator.

Mr. Byrne: Is there a scale on this map?

[fol. 130] Mr. Edwards: Here it is, one inch equals two hundred feet.

Mr. Byrne: Do you have a ruler?

By the Court:

Q. The fire was above the bridge, wasn't it?

A. Yes, sir.

Q. It was above the bridge?

A. Above the bridge, yes, sir.

By Mr. Byrne:

Q. Captain, did you see the tug "Arthur N. Herron" in the fire?

A. No, sir.

Q. And from where you were, from where your vessel was, you were able to look up the river and see——

A. The flame.

Q. —the fire flaming on the water?

A. No, sir, all I could see was the illumination from the fire.

Q. Did you know that the fire extended downriver to about the new Penrose Ferry Bridge? Could you tell that?

A. Yes. Well, that would be quite a way from where I was.

Q. And you could tell that?

A. Oh, yes, definitely.

Q. Captain, as I measure the scale here I calculate that your vessel was approximately 2800 feet below the Penrose Ferry Bridge. Would that be approximately right?

A. That would be about correct.

Q. And you said that the "Gulfwing" and the other Gulf tanker that you could see——

The Court: The "Gulflube."

The Witness: The "Gulflube."

By Mr. Byrne:

Q. —the "Gulflube," the decks were about 40 feet out of the water?

A. No, the bow of the "Gulfwing" was approximately 40 feet out of the water.

Q. Well, if the bow was about 40 feet it would only be a

very few feet difference between the bow and the stern, would it not?

A. Oh, no. There is a difference of 18 to 20 feet at times.

Q. Well, on this night?

A. On this particular night I would say there was about 18 feet difference between the bow and the stern.

Q. In other words, you had a drag of 18 feet?

A. Oh, yes.

Q. Do you have your log available?

A. No, sir.

Q. Have you consulted your log?

A. Yes, sir.

Q. When was that?

[fol. 131] A. Well, the records, they keep a copy of the records in the Gulf office.

Q. But when did you consult them?

A. The actual records themselves?

Q. Yes, sir.

A. Well, I just talked with our office last night regarding my memory.

Q. Well, did you either directly yourself or have someone for you check the entry as to the ship's draft that you made that night?

A. No, sir.

Q. And your best recollection is that the bow was about 40 feet out of the water?

A. Yes, sir.

Q. And how about the "Gulflube"?

A. She is not quite as large a ship as the "Gulfwing" and her trim difference would be about from 8 to 10 feet between the bow and the stern.

Q. But what would—give us either the bow or—

A. The bow would be about 8 feet higher than the stern.

Q. But I mean give us the freeboard.

A. Her freeboard would be about 32, 33 feet.

Q. About 32 or 33 feet. Now, this is on the evening in question?

A. Yes, sir.

Q. All right. And you said that the vents that were on both vessels were the same, the venting system?

A. The general type, yes, sir.

Q. And you said that the gases or vapors from the tanks which are let out in order to permit new cargo to be loaded aboard pass through a system of valves which you described, and then how far up the mast, Captain?

A. On the "gulfwing" they are approximately 38 to 40 feet above the deck.

Q. Above the deck.

A. Now, on the "Gulflube," being a smaller ship her venting would be considerably less, maybe 28 feet above the deck.

Q. Maybe about 28 feet.

By the Court:

Q. By the way, were both these ships loading?

A. No. The "Gulfwing" was discharging.

Q. And the "Gulflube"?

A. The "Gulflube" was loading and discharging.

The Court: All right.

By Mr. Byrne:

Q. Now, Captain, you said that there is—

By the Court:

Q. One thing more. Was this system in operation when [fol. 132] you were discharging as well as—

A. Yes, sir, that is, where it gets its name from, release and vacuum.

By Mr. Byrne:

Q. And you said that there is a 3-pound—

A. Weight.

Q. —weight. In other words, until the pressure built up to 3 pounds the gas, whatever it is, the vapor, is held in the tank and then it releases when it builds up above 3 pounds and then the valve will close when the pressure gets below 3 pounds. Is that correct?

A. To a certain extent. There is an ullage hole where you gauge the tank, on top of the tank, which has to be taken into consideration.

Q. Captain, we can go into all these holes later. I want an answer to my question. Does this valve close—

A. Yes.

Q. —when the pressure is less than 3 pounds?

A. Yes, sir.

Q. I see. So that the gases that come out of this venting system come out in puffs?

A. That's right.

Q. In other words, there is a lot of it comes out, or some comes out, then it stops and then at some measurable period of time later another puff comes out, is that correct?

A. That's right, as long as that pressure is maintained on the inside.

Q. That is right. But it has to build up, then it drops, it builds up and drops and it comes out in puffs as the pressure builds up?

A. That's right. But you also have to take into consideration the ullage hole.

Q. All right. Now, the ullage holes are where, on the deck of the vessel?

A. No, the ullage hole is on top of the expansion where you gauge your tank.

Q. In other words, it is above the deck of the vessel?

A. Usually about 30 to 36 inches above the main deck of the vessel.

Q. So if the main deck of the vessel were 40 feet in the air, this would be 43 feet in the air?

A. No, no, the vent-pipe goes from the expansion, that is, your extension above the deck, you count that approximately a foot above the deck. It runs along the deck up to the catwalk, along the catwalk and up the mast.

Q. Oh, in other words, the material or gaseous material that comes out these ullage holes that you speak of is through a system of pipes, closed pipes, conducted up the mast again?

A. That is right.

[fol. 133] Q. Now, does that come out at the same level as the release of the Rel-vac system?

A. That is the Vac-rel system. But the ullage cap is just a hole in the top of the expansion where you gauge the depth of the space between the top of the tank and the liquid that is in the tank.

Q. Were they open on these vessels?

A. No, sir. There is a screen that is put in there known as a flame arrester. That is made of non—

Q. Well, on this night, Captain, let's find out first whether these ullage ports were open or closed.

A. They were naturally closed—they were open to the extent that the flame arresters were in place.

Q. I don't—

A. That is where the door would be. When you life the door you put a screen in there. This is like a mosquito screen on a door.

Q. I see. So those doors were permitted to remain open?

A. As long as the screen was in there, the flame arrester.

Q. Do you know how many of them on the "Gulfwing" were open and how many were not?

A. Every one that was open had a flame arrester screen in there.

The Court: Well, I will let it stand.

By Mr. Byrne:

Q. Do you know how many of them were open and how many were not, from your own personal knowledge?

A. I will have to get you to qualify your answer.

Q. I am not answering anything, sir.

The Court: What did you mean?

The Witness: What does he mean by "closed"?

Q. All right, if you don't understand my question you ask me.

A. That is what I mean.

Q. I mean closed so that the top provided for the ullage hole is closed. I am not talking about a flame arrester. I don't even know what a flame arrester is. I want to know how many were closed and how many were open.

A. I would say none of them were closed in the way you want it.

Q. Do you know that?

A. Yes, sir.

Q. You know that. All right, how many is that?

A. Oh, now, I will have to think. I think there are 26. I am not absolutely positive, but I think she had 26 tanks.

By the Court:

Q. Well, now, when they were in the condition in which they were with the flame arrester could vapor escape through these ullage ports?

A. Not as a vapor. As an odor I would say yes, but not as a vapor under pressure.

The Court: All right.

[fol. 134] By Mr. Byrne:

Q. But the vapor would not escape; the vapor was going out the Rel-vac system, which is designed for that purpose, is that your answer?

A. That is correct.

* * * * *

Q. What are the sizes of the vent pipes, Captain?

A. On the ocean-going tankers they usually run 4 inches in diameter.

Q. 4 inches?

A. That is the feed line from the tank to the trunk line.

Q. How about the one up the mast?

A. That is usually 8 inches.

By the Court:

Q. I want to ask you just one question. You did express some opinions with regard to good seamanship under certain conditions, and I wanted to ask you whether your experience in navigating and operating a vessel has been confined, as I understand it, to tankers. Has it?

A. I have been on every type of vessel from some of the largest passenger boats in the world and I was also master of two of the barges that were at the dock that night, the "No Nox" and the—

Q. Have you operated any tugs?

A. No, sir, not as a tug.

Q. But you say you have been—

A. I was master on the "No Nox" and the "Yacona."

Q. Those were barges?

A. Yes, they are motor barges.

Q. They were operated by tugs?

A. No, sir.

Q. They operate under their own power?

A. Yes, sir.

By Mr. Byrne:

Q. Captain, when we recessed, I was asking you about the ullage ports in the Rel-vac system. My question now, to sum up and see if I understand what you said, does the fact that these ullage ports were open but fitted with double flame-proof screens, does that defeat the purpose of the Rel-vac system?

A. No, sir.

Q. In other words, gas is not emitted from the—the gases which are being displaced by the cargo being loaded are not emitted through the ullage ports. They go through the Rel-vac system; is that correct?

A. Yes, sir. May I qualify that for you?

Q. Yes.

[fol. 135] A. These screens, these flame-arrester screens, as they are known—

Q. Yes.

A. They exceed the width of the Vac-rel system. That is a three-foot width, and those screens going over is approximately three and a half feet.

Of course, they vary according to the material used, but most of them are made out of cast brass and non-sparking materials.

Q. In other words, the whole system is designed so that the Rel-vac system will take off the vapors?

A. Yes, sir.

Q. Now, Captain, you testified also about red lights. I think you said, on the gangway.

A. No.

Q. Didn't you say that?

A. No.

Q. That there was a sign on the gangway?

A. That's right.

Q. That's right, and at night there was a red light?

A. The conning bridge.

Q. The conning bridge.

That was the red light at night or the red flag in the day-time that was intended to warn persons that the vessel was either loading, discharging, or carrying a highly inflammable product; is that correct?

A. Any explosive product.

Q. Any explosive product.

What is the significance of that red light? In other words, is it—strike the question.

The warning that it is carrying an explosive—that the vessel is carrying an explosive product means what?

A. Well, suppose I were coming up the river, and I saw a ship with a red light. I would pass her using all precautions so that there would be no chance of involvement in a collision or inflammable—anything of an inflammable nature passing from my vessel to that vessel.

Q. In other words, it would be a warning to persons in the immediate vicinity?

A. Yes, sir.

Q. Would it be a warning to persons on the Penrose Ferry Bridge?

A. Definitely.

Q. Up on the bridge?

A. Yes, sir, because he could see that light.

Q. Would it be danger, in your opinion, to your vessel, from someone up on the Penrose Ferry Bridge?

A. If I were immediately under the bridge, I would say yes.

[fol. 136] Q. Well, you are 2,800 feet away; your vessel is 2,800 feet away.

A. I said if I were under the bridge, I would say—

Q. Oh, now we understand each other.

Yes, you mean if your vessel was immediately underneath the bridge?

A. Yes, sir.

Q. It would be a warning to someone in the immediate vicinity; is that what you mean?

A. Yes, sir.

Q. Captain, how high above the water was the top of the vent pipe of the Rel-vac system on the "Gulfwing" on the 18th of November, 1952?

A. I would say in the vicinity of about 55 feet.

Q. How high was it on the "Gulflube"?

A. Well, being the smaller ship, I would say forty or more feet.

Q. More than forty?

A. Yes, sir.

Q. Now, captain, going back to these red lights which you talked about, you said that they signified caution to outsiders with respect to collision and other things in the immediate vicinity of the ship?

A. That's right.

Q. Do you know whether Gulf Oil Corporation issues any general public warning of dangerous conditions that are further away than the immediate vicinity of the ship—

Mr. Freedman: I object.

Q. —carrying a red light?

Mr. Freedman: I object, Your Honor. That issue was not involved here. That might be involved as far as the liability of Gulf is concerned. It is not an issue in this case.

The Court: Yes, I will hear it. I think it is all right.

A. On approach to the Gulf Oil Corporation properties there is a great big sign that is clearly visible to anybody coming in that no smoking, no open lights to be carried in any place whatsoever—

The Court: Is that on shore?

The Witness: That is on the shore.

The Court: How about on the river?

The Witness: On the dock side, I would say approximately every 50 feet there are signs prohibiting the use of naked lights and smoking, et cetera.

The Court: Are they large enough to be read by a ship in the middle of the channel?

The Witness: No, sir.

By Mr. Byrne:

Q. They prohibit or caution against the use of open lights on shore within the vicinity of the Gulf plant?

[fol. 137] A. That's right.

Mr. Byrne: That is all.

Redirect examination.

By Mr. Freedman:

Q. Isn't the red light on the ship supposed to be a sign for all masters of passing craft?

Mr. Byrne: Objected to, sir.

That is grossly leading, and it starts out that way, and this witness is——

The Court: Well,——

Mr. Byrne: I don't think he can suggest an answer, sir.

The Court: Oh, it is undoubtedly leading. I am wondering whether it is really a relevant inquiry, what it is supposed to be. He stated that it is a danger signal and that is all right. It is intended to be a danger signal. It is just repetitions.

Mr. Freedman: What I was going to say, Mr. Byrne just developed it, and Your Honor asked him about this sign on the dock side, where it could be seen from anywhere in the channel by passing craft.

The Court: Yes.

Mr. Freedman: All I am asking is whether or not that red signal conveys any message which would be comparable to those signs?

The Court: Oh, we went over that before. I will sustain the objection. It is pure repetition. If a red signal is a danger signal— (To the Witness) You are familiar with the customs and the way things are done on that waterfront, aren't you, pretty thoroughly?

The Witness: Yes, sir.

The Court: You know what the sailors and tug people and boat operators generally talk about and think pretty well, don't you?

The Witness: Yes.

The Court: You have contact with them all of the time?

The Witness: All of the time.

The Court: And you are competent to testify whether these men don't understand that the red light is a danger signal?

The Witness: Definitely.

The Court: They do so understand?

The Witness: Yes, sir.

The Court: And where it is displayed at this point from your own experience with these men, in talking with them, and so forth, I suppose you know that it means danger of explosion?

The Witness: Definitely.

The Court: Or fire?

[fol. 138] The Witness: The hazard is there at all times.

The Court: That's all. I don't think you need to elaborate on that.

Mr. Freedman: I think Your Honor has covered it.

There is just one more point that I wanted to develop which Mr. Byrne started to develop, and I wanted to take it a little further.

The Court: All right.

By Mr. Freedman:

Q. Mr. Byrne asked you about the distance in which you would have to use all precautions. He asked whether your vessel was up at the bridge. Let me ask you this: let's take the actual situation where your vessel was at the dock at the Atlantic Refining Company showing a red light—

Mr. Byrne: Gulf.

Mr. Byrne: At the Gulf Refining Company; thank you.

The Court: Go ahead. What is the question?

By Mr. Freedman:

Q. And you were on a tugboat coming down the stream past the refinery, to carry an open light on that tugboat—

Mr. Byrne: Objection.

By Mr. Freedman:

Q. —or on the scow alongside the tugboat?

Mr. Byrne: Objection.

The Court: I don't think it is a matter for expert opinion. I think it is a matter for the Court to determine, unless we

get more data as to the character and nature of the vapors and where they are apt to be encountered, and all of that sort of thing.

I will sustain that objection.

Recross examination.

By Mr. Byrne:

Q. Captain, you said you had no experience on a tug-boat?

A. No, sir.

Q. You have a great many years of experience with the Gulf plant?

A. Yes, sir.

Q. You have seen many, many barges and tugs go up and down the Schuylkill River?

A. Yes, sir.

Q. Have you seen barges with kerosene lanterns on them?

A. Not oil barges.

Q. I didn't ask you that.

Mr. Freedman: What was that answer?

The Court: Has he seen barges with kerosene lamps on them.

By Mr. Byrne:

Q. All other types of barges except oil barges use kerosene lanterns?

A. That is correct.

Q. You have seen that literally thousands of times?

A. I wouldn't say that. Quite a lot, yes!

[fol. 139] Q. In your experience, the oil lantern is the customary light to be used on a barge, other than one carrying petroleum products themselves?

A. Yes, that is an accepted practice.

Q. That is an accepted practice. As a matter of fact, Captain, you use tugs to dock and undock the ships at the Gulf Refinery?

A. Yes.

Q. And to assist other vessels in going up the Schuylkill River to other docks?

A. Yes.

Q. Those tugs, some are Diesel and some are steam-driven, are they not?

A. Correct.

Q. All steam-driven tugs must have and do have open fires, do they not, to make steam?

A. Yes.

Q. And they ply the river, whether you have a red light on your tankers alongside the spillways or not?

A. Yes, but there are certain qualifications on that, too.

The Court: What is that?

The Witness: Most of the tow boats using coal for instance, they have arresters in the smokestack or on top of their smokestack, and a general rule through all oil companies is that no coal-burning tow boat can lay alongside of a vessel that has cargo in it or is empty until such time as she is secured for sea.

By Mr. Byrne:

Q. I see. But the only restriction is coal-burning tow boats; is that correct?

A. Yes, sir, but—

Q. There is no—

Mr. Freedman: Let him finish.

A. (Continuing) But no tow boat is allowed to lay alongside until the ship is ready to go to sea.

By Mr. Byrne:

Q. You mean smack alongside?

A. Right alongside.

Q. Not even a Diesel is allowed to lay alongside, but is there any restriction on the tugboat, whether a coal-burning, Diesel or oil-burning, using the river going up and down the river in navigation?

A. There is no restriction that I know of.

Q. Do you consider that there is any danger there?

A. Naturally, there is a danger because the Atlantic Refining Company have done away with all of their coal burning tow boats and taken over Diesel, and none of the tow boats on the river done the same thing.

[fol. 140] Q. They do that, in your opinion, Captain.

because of the danger that they would have an explosion at the Gulf plant?

A. Imagine the safety factor——

Q. Not what you imagine.

The Court: You asked for his opinion. He means that it is his opinion when he says he imagines.

The Witness: The safety factor would be one of the main factors.

By Mr. Byrne:

Q. Do you testify to that under oath, Captain?

Mr. Freedman: Just a minute.

He made him his witness for an opinion. As a matter of fact, he is going beyond——

The Court: It is all right. He is entitled to swear under oath that that is his opinion.

The Witness: In my opinion, the change from coal-burning to Diesels is a safety factor that is involved, and that would be one, I would think, of very, very great importance when I converted.

By Mr. Byrne:

Q. You don't know whether the tow boat people who actually did the job——

Mr. Freedman: That is objected to.

The Court: What is the question?

Mr. Freedman: He is trying to impeach him after he made him a witness for his own opinion.

The Court: The question is all right.

Mr. Byrne: Will you read my last question, Miss Maschka?

(The last question was read by the reporter.)

By Mr. Byrne:

Q. You don't know whether the tow boat people who actually did the job of converting from coal-burning tugs to Diesel tugs did it solely for safety reasons, do you, Captain?

A. No, no, sir.

Q. As a matter of fact, these same or similar fumes were

out on the—existed when coal-burning tow boats used the river?

A. Well, the conditions are more or less the same as they were five years ago.

Q. Five years ago you had coal-burning tugs?

A. Definitely.

Q. You still have oil burning tugs using the river daily, do you not?

A. Correct.

Q. Of course, to form steam, you must have a flame, and you must draw it—Well, that is obvious. As a matter of fact, Captain, it is only in recent years, that Gulf—very recent years that Gulf got its own Diesel tug, isn't it?

[fol. 141] A. For your information, I would like to correct that. Gulf don't have a tug as a tug. It is a fireboat.

Q. I see.

A. It is on the river for protection, for water protection.

Q. Now, those tugs all have galley stoves in them?

A. Not all of them.

Q. Well, a large number, a large percentage of the tugs, going up and down the river—not the Gulf tugs, but tugs using the river in navigation, have galley stoves on them?

A. Yes, sir.

Q. And the men on the tugs and barges going up and down the river smoke cigarettes and pipes?

Mr. Freedman: Objection, sir.

The Court: Well, I guess they do.

The Witness: True.

The Court: I will take judicial knowledge of that.

By Mr. Byrne:

Q. Captain, it has been testified to here that the surface of the river on this night caught fire and burned.

What was your observation? Do you confirm that?

A. No, sir. The only thing I said anything about the fire was that I saw an illumination from the fire.

Q. But I am saying that it has been testified here that the surface of the river caught fire and burned. I am asking you to assume that condition.

A. Yes.

Q. In your many years of experience at the Gulf plant, do you know of a similar incident?

A. Not in the immediate—wait a minute.

Mr. Freedman: Just a minute, sir.

First of all, he is making the witness his witness.

The Court: For this purpose, this question, it is part of his case. It is certainly all right, and I will overrule the objection.

By Mr. Byrne:

Q. Listen to my question, Captain.

In your experience at the Gulf Refining Company plant, have you ever seen a similar situation where the surface in front of the Gulf Oil Company plant, the surface of the river in front of the Gulf Oil Company plant, caught fire and burned?

Mr. Freedman: This, of course, is all subject to my objection.

The Court: Go ahead.

A. No.

Would it be okay if I qualify that answer?

[fol. 142] By Mr. Byrne:

Q. That is your answer?

The Court: You may qualify it, yes. You can qualify it. It is all right.

The Witness: The answer to his question is is that correct. From the Gulf Oil, I have never seen that condition?

The Court: What have you seen?

Mr. Byrne: All right, what have you seen?

The Witness: But I have seen the river afire in other vicinities.

The Court: In Philadelphia?

The Witness: Yes, sir.

The Court: The Schuylkill River?

The Witness: And the Delaware.

The Court: And the Delaware.

The Witness: But not in the immediate vicinity of the Gulf Oil docks.

By Mr. Byrne:

Q. Where did you see it?

A. I seen it above the Gulf Oil, around what is known as Yankee Point, between the Atlantic and Standard Oil. It is Point Breeze and Yankee Point.

Q. What caused that?

A. That was a fire from——

I understood the police officer who was here yesterday, he couldn't give you an answer to that. It could have been a cigarette thrown from the Point Breeze Bridge, a fire blown from ashore, and at one time, at the Cities Service docks at Petty's Island——

Q. What is——

Mr. Freedman: Wait a minute. Don't cut him off.

Mr. Byrne: I am not.

Mr. Freedman: Go ahead, Captain.

Mr. Byrne: I want this plain. This is not in answer to any question.

Mr. Freedman: Absolutely it is.

Mr. Byrne: Mr. Freedman, can I make a statement without being interrupted? Common courtesy is something.

The Court: I think that Mr. Freedman is interrupting a good deal, but it affects the value of the whole testimony for the Court.

Mr. Byrne: I understand that. I am not trying to stop it.

The Court: It is of very little value to know that this doesn't happen within a place of 100 feet long or a little longer than that——

Mr. Byrne: That is true. I concede that.

The Court: Or a distance of half a mile. It doesn't help me a bit. I want to know whether it is a common occurrence on the Schuylkill or whether it never occurs. He is answering really what the Court ought to know.

[fol. 143] The Witness: Well as I was saying, the next time I was talking about at Petty's Island, and we were loading two fuel, that is house fuel, and the barge next to us was loading gasoline, and I am not sure whether the hose burst, but a fire occurred, and the gasoline from that hose went into the river along the dock and set my barge afire. I happened to be the captain.

The Court: Was the surface of the river ablaze?

The Witness: The surface of the river was ablaze.

By Mr. Byrne:

Q. In that case——

Mr. Freedman: May I suggest that we let the witness finish his answer.

The Court: I thought he did.

The Witness: No, sir. The only thing I was going to say was as I cut the lines I drifted it; I let the boat drift from the fire, and put my fire out aboard the ship.

By Mr. Byrne:

Q. Captain, in that case you knew the source of the gasoline. It had been spilled on the river; is that right?

A. That one, yes.

Q. What was the extent of the other fire that you observed, this other fire?

A. Yes. I was going up River Road, which is right parallel with the river, and I saw the fire on the water.

Q. What was the extent of it?

A. Well, I should say it goes over maybe a quarter of a mile.

Q. How wide?

A. Pardon?

Q. How wide?

A. Two-thirds of the river.

Q. Two-thirds of the river?

A. Of course, that is approximate.

Q. When was that?

A. Oh, four or five years. You heard the police officer——

Q. Four or five years from when?

A. Four or five years ago.

Q. Four or five years ago?

A. Around 1950, somewhere in there.

Q. That was not at the Gulf plant?

A. No, sir.

Q. But some place else?

A. Yes, sir.

Q. On whose property?

A. No property. The river.

[fol. 144] Q. Opposite whose property?

A. Well, as near as I could understand, figure it out, it would be—there is the Standard Oil on Yankee Point, and the Atlantic Refineries at Point Breeze.

If I remember correctly, this drifted up, and from the piling it caught fire at the Baltimore and Ohio trestle crossing the Delaware. That would be above the river, which would be a flood tide carrying the flame up.

I am not exactly sure. The details are missing, but I do distinctly remember that fire.

Q. On this fire which you saw, was there any smoke rising from it?

The Court: Which one?

Mr. Byrne: The one he is describing now.

The Court: At Point Breeze?

Mr. Byrne: Wherever it was, up around the Baltimore and Ohio Bridge.

A. If there had been, it would have to be a very light haze.

By Mr. Byrne:

Q. No, did you see it?

A. I am giving you as near as I can give you an answer. It would have to be a very light smoke, if any.

Q. Did you see it? Did you see smoke?

A. Well, I imagine it must have been the smoke that drew my attention to it first. I am higher up, and I would naturally see smoke before I saw the fire.

Q. Did you see it well enough to tell me what color the smoke was?

A. I don't think I could give you a positive yes or no answer on it.

Q. Now, on the night that the "Arthur N. Herron" the tug was on fire and you were on the "Gulfwing", did you see the smoke?

A. No, sir. All I could see was the haze of the fire, the illumination and the haze.

Q. You couldn't see what color the smoke was that was coming from it?

A. No, all I could see was it was a reddish-brown-orange flame.

Q. A reddish-brown-orange flame?

A. Yes.

[fol. 145] FRANCIS J. HARRINGTON, having been duly sworn, was examined and testified as follows:

Direct examination.

By Mr. Freedman:

Q. What is your full name, sir?

A. Francis John Harrington.

Q. How old are you, Mr. Harrington?

A. 22 years of age.

Q. What schooling have you had, Mr. Harrington?

A. Very little, sir.

Q. How far through school did you go?

A. To the sixth grade.

Q. What did you do after that?

A. Got a job.

Q. How long have you worked on the boats?

A. Right up to now, about three years.

Q. How many years?

A. Three years.

Q. Will you keep your voice up, please, so that the Court can hear and Mr. Byrne?

Was your first job with the American Dredging Company on the boats?

A. No, sir.

Q. For whom.

A. What?

Q. Whom did you first go to work for on the boats?

A. I worked on the dredge "Baltic" for about two months, three months.

Q. The dredge "Baltic" is owned and operated by the American Dredging, is it not?

A. Yes, sir.

Q. So that your first job was for the American Dredging Company on the dredge "Baltic"?

A. Yes, sir.

Q. What kind of work did you do on the dredge?

A. I was a deckhand.

Q. I see. Then what work did you do after you finished on the "Baltic"?

A. I got a job on the "Herron".

Q. On the tug "Herron." When did you first go to work on the "Herron"?

A. My best recollection is about the middle of August.

Q. Of what year?

A. Of '52.

Q. And what was your job on the "Herron"?

[fol. 146] A. Deckhand.

Q. Now, where was the "Herron" working when you first went aboard her?

A. She was working in the yard when I first got the job on there..

Q. Did you at any time prior to the accident in this case work on the "Herron" while she was operating on the Schuylkill?

A. Yes, I did.

Q. When did you make those trips?

A. Well, I had a job on the other side of the bridge, the Passyunk Bridge, on the other side of it. They were digging a trench so that they could—

* * * * *

A. (Continuing) They were digging a trench so that they could lay pipe there, the dredge "Baltic."

By Mr. Freedman:

Q. What was your tugboat doing?

A. We were towing the dredge.

Q. You were towing the scow?

A. Yes, sir.

Q. Up and down the river?

A. Yes, sir.

Q. Did you say Point Breeze, from Point Breeze, around Point Breeze, was it, did you say?

A: It was on the other side of Passyunk Bridge.

Q. In the course of that journey did you have occasion to go by the oil refineries on the Schuylkill River?

A. Yes, sir.

Q. Including the Gulf and the Atlantic and the Esso?

A. Yes, sir.

Q. Now, in going up and down the river during those trips did you notice any particular odor in the air?

A. Yes, sir.

Q. When you went by those refineries?

A. Yes, sir.

Q. Can you identify the odor?

A. A gas smell, like.

Q. What kind of gas?

A. The kind that I get in my car.

Q. You mean your automobile?

A. Yes, sir.

Q. Was it mild or was it strong? Did it vary?

A. It was always strong, but like on a rainy, misty day it was stronger than it was on a clear day.

[fol. 147] Q. Now, Mr. Harrington, directing your attention to November 18, 1952, you were engaged on the tug "Herron" as a deckhand?

A. Yes, sir.

Q. Did you make any trips before the fire on that day?

A. Yes, sir.

Q. How many did you make, if you recall?

A. We brought a light scow from Mantua mooring to the dredge. That is the one I remember.

Q. How many trips did you make before the fire, if you are able to state?

A. My best recollection, two.

Q. Two trips. And did that trip take you past the—was that from the Atlantic Refining dock down to the mouth of the Schuylkill?

A. We went out to the mooring, we got a scow, came up the Schuylkill, brought the scow up to the bridge, that is, up at the Atlantic Dock.

Q. I see. Now, during that trip did you have occasion to pass by the refineries?

A. Yes, sir.

Q. That was the Esso and the Atlantic and the Gulf refineries?

A. Yes, sir.

Q. Did you notice any odor in the air on those trips prior to the fire?

A. There was always an odor up there, sir.

Q. What odor was it?

A. Like a gas.

Q. Gasoline, you mean?

A. Yes.

Q. Are you talking about a gasoline odor?

A. Yes, sir.

Q. Please keep your voice up, Mr. Harrington.

Now, do you remember after you got back to the dredge with the unloaded scow, you took another loaded scow to the dredge and were going to take her from the Atlantic dock to its dumping place down near the mouth of the Schuylkill?

A. Yes, sir.

Q. Is that correct?

Do you remember starting out on the trip from the dredge at that time?

A. Yes, sir.

Q. Do you have any duties—did you have any duties before you started that trip? Did you have any duties on the scow?

[fol. 148] A. Well, we make up to the scow, put three lines on her, make up, and the man, before we got away from the dredge, the man give me two lanterns, and I put them on the scow.

Q. Where did you put them on the scow?

A. On the far corner, and on the bow and on the stern.

Q. Now, whereabouts on the scow did you put them?

A. On the outboard side, on the port side.

Q. On the deck of the scow?

A. Yes.

Mr. Freedman: May I have the pictures, sir, so that I can point that out?

The Court: You may as well take all of them.

Mr. Freedman: Thank you, sir.

By Mr. Freedman:

Q. Incidentally, do you recall the lanterns that you put on the scow? Do you remember what they looked like?

A. Yes, sir, I do.

Q. I show you Claimants' Exhibits 11 and 13, and I ask whether you can identify those.

A. They were the lanterns.

Q. These were the lanterns?

A. Yes, sir.

Q. How much freeboard did the scow have, the loaded scow at the time you put those lanterns on?

A. From the water, sir?

Q. From the water, that's right.

A. At the very most, two and a half feet.

Q. About two and a half feet. That was from the water to the deck of the scow?

A. Yes, sir.

Q. I show you Claimants' Exhibit No. 6, and I ask you whether this represents a picture of the scow alongside the tugboat "Herron"?

A. That is the scow.

Q. Would you put your finger, or mark with an "L" the place where you put the lantern on the scow, please? Will you mark it with an "L," please, just where you put the lantern on the scow?

A. Right here (indicating).

Q. Right here (indicating)?

A. Yes—no, up in here, I put it up in here (indicating).

Q. Up in here (indicating)?

A. Yes.

[fol. 149] Q. Is that about right (indicating)?

A. No, I put it right in between here and there (indicating).

Q. Well, on the deck of the scow?

A. Yes, sir.

Q. In other words, right opposite the mooring?

A. Right here (indicating).

Mr. Byrne: He said between the padeye and the coaming, isn't that what you said, Mr. Harrington?

The Witness: Yes, right there (indicating).

By Mr. Freedman:

Q. Would you say that is about right (indicating)?

(To the Court) Would Your Honor like to take a look at it?

The Court: Yes. All right.

Mr. Freedman: It is on the deck of the scow where he put the lantern.

The Court: I see.

By Mr. Freedman:

Q. In other words, the "L" which appears on Exhibit C-6 is perhaps about a quarter of an inch to the left of—

A. I didn't put the lantern there. I put the lantern—

Q. Keep your voice up, please. Go ahead.

A. I put it over there, between here—between here and right there, right in line with that—going that way (indicating).

Q. Now, the black ink mark which is to the right of the "L" represents the place where you put the lantern; is that right?

A. It is over by it. It is in line.

Q. On the deck of the scow?

A. Yes.

Q. That was the after end of the scow; is that correct?

A. Yes, sir.

Q. How far from—on the deck of the scow was it?

A. Yes.

Q. How far from the bow of the scow and from the side of the scow did you put it?

A. I put it three feet from the bow, and I put it three feet from the side of the scow.

Q. I see. On the deck?

A. Yes, sir.

Q. Now, did you put the scow, or did you put the lanterns on the scow, in accordance with directions given to you by your superior officers?

A. That is the orders I always got, at night time you put your lanterns out.

[fol. 150]

Q. Now, what happened after you put those lanterns out and you started on your trip downstream to unload the scow?

Will you tell us what you remember of your own knowledge, please?

A. I come back on the boat—

Mr. Byrne: Louder.

A. (Continuing) I come back on the boat, and I washed my boots off, and I went in the galley.

By Mr. Freedman:

Q. Now, who was in command of the vessel at that time?

A. Captain Taylor.

Q. Do you remember who else was on board ship? I will withdraw that. I think that is already on the record.

The Court: Yes. Don't repeat. Let him tell his story.

By Mr. Freedman:

Q. Tell us what happened from the time you left the dredge until the time of this fire, and continue right on through, please.

A. We headed down—downriver, with the loaded scow. We got right down near the Gulf docks, and I was in the galley, and the mate came—the captain came down.

Q. Go ahead. You were in the galley, and the captain came down?

A. The captain came down to get a cup of coffee. I was leaning up against the doorway of the galley, and I looked out, and I saw a little bit of fire on the water, and the more I saw it, it was nothing but the whole boat was just all the way around the boat, the flames was higher than I could see.

Q. Where was the fire, on the boat or on the water?

A. On the water.

Q. No,—

The Court: Did you hear anything? Did you hear any noise?

The Witness: It happened so fast. I just saw the flames.

The Court: Yes. All right.

By Mr. Freedman:

Q. Now, when you first saw it you were standing in the galley. Are you able to state where you first saw it?

(To the Court) Incidentally, apparently I must have blotted this ink spot so that it now extends upward. So that there would be no question about this on the record, the blot upward is meaningless. It is the point immediately to the "L" which reflects where the lantern was, and that is all that is significant on the picture C-6.

Mr. Byrne: Yes.

The Court: All right.

Mr. Byrne: There is a question pending, Mr. Freedman.

Mr. Freedman: Would you read the question?

(The last question was read by the reporter.)

[fol. 151] By Mr. Freedman:

Q. Are you able to state where you first saw the flash?

A. Saw it off—

Q. Keep your voice up.

A. Off the port side, on the corner of the scow.

Q. I show you Claimants' Exhibit 6. Does this picture show you about where the flash occurred?

A. This ain't where the fire was, right here—

Q. I mean so far as the location, as between the scow and the tugboat?

A. I saw it right off, looking out here, saw it off this way on the corner of the scow (indicating).

The Court: Off the left side of the picture.

Mr. Byrne: On the after—off the after port corner of the scow; is that right?

The Witness: On the port side.

Mr. Byrne: But it was on the after corner?

The Witness: Yes, the after corner.

By Mr. Freedman:

Q. That is where you first saw the flash?

The Court: That was a little fire first, was it?

The Witness: Yes.

The Court: How far from the corner of the scow was that small amount of fire you saw?

The Witness: Not too far away.

The Court: How far would you say?

Mr. Byrne: As far as—

Mr. Freedman: Just a minute.

The Court: Give us an idea in the room. How far—

The Witness: From about where I am sitting to about right there (indicating).

The Court: That is the wall of the jury box?

The Witness: Yes.

The Court: Well, that looks to me to be about six feet.

Mr. Byrne: That is about eight feet.

Mr. Freedman: About six feet.

The Court: Approximately six feet. All right.

Mr. Byrne: Can I clarify something in my own mind?

By Mr. Freedman:

Q. At the time you saw this flash, where were you standing?

A. I was in the galley, sir.

Q. You were in the galley, and you were looking out of where?

A. I was looking at the after end of the scow.

Q. If you were looking out—would that be the port side of your galley?

A. Yes.

[fol. 152] Q. And you saw this flash occur on the port after side of the scow?

Mr. Byrne: I object to the question. The witness did not say he saw a flash. He said he saw a fire.

The Court: He said he saw a little fire in the water first.

Mr. Freedman: Can you identify what you saw, whether it was a fire or something else?

Mr. Byrne: I object to that. The witness has already covered that.

The Court: Oh, that is a proper question.

By Mr. Freedman:

Q. Tell us what you remember.

A. I saw a little bit there, no more than I could say another word and the whole boat was just surrounded.

Q. Surrounded?

A. Yes, sir.

Q. What happened after that?

The Court: You say the flames were so high you couldn't see the top of them?

The Witness: That's right, sir.

By Mr. Freedman:

Q. Where was the captain when this occurred, when you first saw the fire?

A. He was in the galley with me, but he started to go out of the galley. He had his coffee and he started out and got out of there real fast and went to the engineroom.

Q. Now, what did you do?

A. He was talking to the engineer, and they went inside the engineroom, and I went in, right in back of them a little.

Q. How much time elapsed between the time you saw the fire and the time you went into the engineroom?

A. You mean from the galley when the captain went in the engineroom?

The Court: From the time you first saw the fire until you went to the inside of the engineroom, how long was that?

The Witness: My best recollection is about one minute.

By Mr. Freedman:

Q. Now, during that time, are you able to state whether the fire was on the water or on the vessel, or both?

A. It was on the water.

Q. Was there any part of the vessel burning that you could see?

A. When I was in the engineroom, you mean?

The Court: No.

By Mr. Freedman:

Q. No, before you went in the engineroom.

A. No, sir.

Q. Was the wheelhouse burning at that time, before you went into the engineroom?

A. No, sir.

[fol. 153] Q. Up until the time you went into the engineroom the wheelhouse was not burning?

The Court: That is what he said.

By Mr. Freedman:

Q. Is that what you meant?

A. It wasn't burning.

Q. Were you able to see the wheelhouse?

A. When I went out there I was running, and when I was standing there that one minute I was looking all around to see where the flames were.

Q. All right. Now, after you went into the engineroom, I just want to get that one point clear. Am I correct in assuming that up to the time you went in the engineroom the wheelhouse was not aflame?

Mr. Byrne: I object, sir.

The Court: Oh, Mr. Freedman, he said that three times at least.

Mr. Byrne: It is grossly leading.

Mr. Freedman: So long as it is clear.

The Court: Well, it can't be made any clearer by just repeating it.

By Mr. Freedman:

Q. After you got into the engineroom will you tell us what happened?

A. It was hot, very hot in there.

Q. Let me just ask you one other question. Before you got into the engineroom did the captain give any orders that you heard?

A. I know the doors was getting, being closed and the portholes was getting closed.

Q. Well, now, before you went into the engineroom, while you were standing on deck that one minute, did you hear the captain give any orders?

A. No, I was—he was down further than what I was. I couldn't hear what he was saying to the engineer.

The Court: All right, he didn't hear it.

By Mr. Freedman:

Q. The first you heard was after you got in the engineroom?

A. When I was——

Q. Let me rephrase that. You didn't hear him give any orders before you got into the engineroom, did you?

A. No, sir.

Q. Now, did you hear him give any orders after you got in the engineroom?

A. The engine was going and I couldn't hear what—if—and I was, me and the oiler was both together, and the engine was going like a regular engine goes. It makes a noise.

Q. Who was in the engineroom with you, do you remember?

[fol. 154] A. Paul Bugoski.

Q. He was the oiler?

A. Yes, sir.

Q. Who else?

A. The captain and the engineer.

The Court: Mylan.

By Mr. Free-man:

Q. Mylan? That is Whitey Mylan?

A. Yes, sir.

Q. Now, were you able to see all of the others in the engineroom?

A. I only saw us four.

Q. Well, was the engineroom clear or was there anything to impair your visibility in the engineroom?

A. It was smoke in there.

Q. Well, did the smoke prevent you from seeing all the others in there?

A. I could only to my—I could only see four.

Q. All right. Now, tell us what happened while you were in the engineroom. Did you finally get out of it?

A. What do you mean, out of the engineroom?

Q. Well, tell us what happened while you were in the engineroom, first.

The Court: Tell us the whole story.

A. While I was in the engineroom, no more than I got in there the engine stopped. Then she started back up and she started to go back.

By Mr. Freedman:

Q. About how long did she go back?

A. How long?

Q. I mean what period of time did the engines go backward?

A. Not too long.

Q. Well, can you give us some estimate?

A. About half a minute.

Q. All right. What happened after that?

A. Then she stopped altogether; she stopped backing back and she just stopped.

Q. Yes. What happened after that?

A. It was me and Paul together.

Q. Paul was the oiler, Bugoski?

A. Yes.

Q. Did you hear the captain give an order to abandon the boat?

A. Yes, sir.

By the Court:

Q. What did he say?

A. He says, "Abandon the tug."

Q. Then what happened? What did you do?

[fol. 155] A. Well, I started to get out of there and I hit my knee on the engineroom door—I went out the starboard side and I hit my knee.

Q. All right. Where did you go then?

A. Then we went on the stern. I went in—I thought the cook was in his bunk and——

Q. The cook you thought was in his bunk?

A. Yes.

Q. All right.

A. I started to go in there, and Paul says, he started grabbing me by the arm. It was all full of smoke in there.

Q. What?

A. It was full of smoke.

Q. Full of smoke.

By Mr. Freedman:

Q. Was there fire in there, too, or just smoke?

A. I couldn't see no fire, I only saw smoke.

By the Court:

Q. You didn't go all the way in, then?

A. No, I didn't.

Q. All right. Who was on the stern when you got there?

A. Just me and Paul.

Q. What did you do?

A. Paul got—went back there and I had me a life jacket. He was beating me on the back, hitting me on the back to get the life jacket—it was like, it was a cotton life jacket.

Q. Why did he hit you on the back?

A. It was, the life jacket was like small, like a little bit of fire just in a round spot (indicating).

Q. The life jacket was on fire?

A. The back of it, not in the front.

Q. Yes?

A. Then I got near the stern, I liked—I froze like, sort of. I thought the wheel was going around and everybody was hollering.

By Mr. Freedman:

Q. What wheel do you mean, Mr. Harrington? What wheel do you mean?

A. The boat, but it wasn't.

Q. Do you mean the propeller?

Mr. Byrne: He means the propeller.

A. (Continuing) And I could hear guys on the dock, sounded like—

By Mr. Freedman:

Q. You could see whom on the dock?

Mr. Byrne: "Hear."

[fol. 156] A. It sounded like telling—the captain holler-ing over "jump." Everybody was hollering "jump" over there.

By Mr. Freedman:

Q. Where was the captain when you heard him holler?

Mr. Byrne: Let me have an answer repeated. Did he say—

The Court: He said the captain hollered "jump."

Mr. Byrne: Did he say something, "I could hear fellows on the dock"?

(The proceedings were read by the reporter.)

Q. Where was the captain when you heard him holler "jump."

A. Sounded like it was coming from the dock.

Q. Could you see the dock well?

A. Yes, I could.

Q. Was it lighted up?

A. Yes.

Q. What dock was that, do you remember?

A. The Gulf dock.

Q. What happened after that?

A. I was like froze on the back there, and I got near the railing and I froze, so I was saying my prayers. I was scared. And no more than I hit the water; somebody gave me a push and I hit the water.

Q. Do you know who pushed you?

A. Yes, Paul Bugoski.

Q. All right.

A. Then I started swimming.

Q. Where did you swim to?

A. I swam to the Gulf dock.

Q. When you were in the water was there any fire there?

A. Just in spots.

By the Court:

Q. Were you burned at all?

A. Yes, I was burned on the arm.

The Court: Well, I will suspend at the present time. I wanted to get the story told before I broke into it. I will hear motions now.

The Court: All right, go ahead.

By Mr. Freedman:

Q. When you came out of the engineroom, Mr. Harrington, can you tell us what part of the vessel was burning?

A. The pilot house.

Mr. Byrne: Say that again.

The Witness: The pilot house.

[fol. 157] By Mr. Freedman:

Q. You went back to the stern, I think you said; you stopped in the cabin to look for the cook?

A. Yes, sir.

Q. Now, when you got back to the stern were you able to see any fire there on the stern?

A. No fire.

Q. You are still working for the American Dredging Company?

A. Yes, sir.

Q. Do you still have the same job, deckhand?

A. Yes, sir, I do.

Q. Is it still your job to put out the lanterns on the scows?

A. Yes, it is.

Q. Is there any change in the practice about putting the lanterns out?

The Court: I will take that subject to the objection.

Mr. Byrne: Sir, that is the old story of remedial action. There is quite a dispute, sir, as to whether the statute which Mr. Freedman has read into evidence here applies, as you will see.

The Court: Well, I will have to take it subject to your objection. I will note it.

By Mr. Freedman:

Q. Tell us what the difference is now, if any.

A. Well, you take the—they have two poles and it goes up and it has—it goes out like that (indicating) and has like a hook on the end of it, and you tie your lantern to it and there is like a thing cut out in the scow that you put this rod down in.

Q. Let me see if I have it straight. You say you have a hole cut out on the deck of the scow?

A. It is not in the deck of the scow, it is around the coaming of the scow.

Q. I see. And how long is that rod that you put in there?

A. Well, it is taller than I am. It is about—I would say about 15 feet in the air.

Q. And you said it has an arm extending out at right angles from the rod?

A. Yes.

Q. And you hang your lantern on that arm?

A. And you lash it.

Q. You lash it, I see.

A. Both.

Q. Mr. Harrington, can you state how long you were in the engineroom from the time you went in until the time you went out, all together?

[fol. 158] A. I didn't have no time clock on. I just give you my best estimate.

Q. That is all we want, sir.

A. Three or four minutes.

Q. At any time while you were on the vessel after the fire started was there any effort made to use the fire extinguishers?

A. I ain't familiar with the engineroom. I am a deck-hand.

Q. Did you see anybody else or yourself make any effort to use fire extinguishers?

A. No.

Q. Did the captain give any order to put the fire hose into operation?

A. I didn't hear the order.

Q. Now, you were with Bugoski from the time you went into the engineroom.

A. I couldn't see him, I could just tell the man, when I was in there for a while.

Q. All right. Now, after you came out of the—well, was he standing right close to you?

A. Yes, we were standing face to face (indicating).

Q. And were you with him during the entire time that he was in the engineroom?

A. Well, we moved around a little bit, me and him, but I was with him all the time, though. We was looking out to see if we could see what side maybe didn't have any fire on it.

Q. Did either he or you or anyone else that you could see attempt to put the fire hose into operation while you were in the engineroom?

A. I couldn't see if anybody put it in. I tell you it was full of smoke in there.

Q. After you got out of the engineroom was there any attempt made to use the fire hose?

A. Paul picked it up but nothing was coming out of it.

Q. Where was that?

A. On the stern of the boat.

Q. On the stern?

A. Yes.

Q. Is that the first time he picked it up, on the stern of the vessel?

A. When we were going out, there was only me and him together, he picked it up.

Q. Where was the fire hose at that time?

A. On the stern of the boat.

Q. Did you see him attempt to use the fire hose at any time before that time?

A. No.

Q. Was there any water coming out of it at that time?

A. No.

[fol. 159] Q. Was there any connection that turned the fire hose on on the stern when you found the fire hose?

A. No, there was no connection back there.

Q. Did you have any trouble swimming ashore?

A. No. I swam hard, and I couldn't have—I was swimming as hard as I could have swam. If I stopped, the tide would take me.

Q. You had no trouble swimming ashore, did you?

A. No, I didn't have any trouble swimming ashore.

Q. Are you able to state about how far it was from the boat to the shore where you landed at that time?

A. I can only give you an estimate, about fifty or sixty yards from the dock to the boat.

Q. When you were still on the stern of the boat, were you able to see the cook and the captain anywhere?

A. I saw the cook.

Q. Where did you see him?

A. I saw him getting drug up, pulled up to the dock.

Q. What dock do you mean?

A. The Gulf dock.

Q. Could you notice any oil in the water while you were swimming?

A. I didn't pay that much attention. I was swimming hard.

Q. Could you taste any?

A. I don't know what I tasted. I was just swimming hard.

Mr. Freedman: You may cross-examine.

Cross examination.

By Mr. Byrne:

Q. Mr. Harrington, if I remember the first part of your testimony correctly, you said that when the scow was up at the dredge "Baltic"—do you remember testifying about that, that the first thing you did when you were getting ready to come down the river was to hose off your boots and the deck of the scow; did you say that?

A. No. Just my boots.

Q. You hosed them off?

A. I had mud on my boots. I had to wash it off before I went to bed on account of otherwise I would have that much more work the next morning with this mud on the deck.

Q. You said you hosed them off; is that right?

A. Yes.

Q. Yes.

What hose did you use?

[fol. 160] A. I used the deck hose, the regular hose what we use to wash down with.

Q. I see. Now, after you had washed off your boots and the tug started down the river, you went about your usual duties after you put out the lamps; is that right?

A. At night time, you don't have much to do on the deck, so all you have got to do is to do your necessary work like making up to the scow and check them lines that is on the scow if you are going to tie it up.

Q. And you went into the galley and had yourself a cup of coffee?

A. That is true.

Q. Where is the galley? Is that forward of the engine-room, or where is it?

A. It is in the bow of the boat. It is forward of the engineroom.

Q. Forward of the engineroom. Does it have a door on one side of the boat or both sides of the boat?

A. It has a door on both sides of the galley, port and starboard.

Q. I see. In other words, it runs through the little deck-house on the tug. The galley, you go in one side, and if you walk straight through the galley, you will come out on the other side of the boat?

A. That is true.

Q. Now, I have been looking at the photographs in this case, Mr. Harrington, the ones that show the outside of the tug. For example, C-6 is one, and you are familiar with this. C-7 is another.

How much distance is there to stand between the rail of the tug and the side of the house? It is pretty narrow, is it not?

A. I would—I was——

Q. Now, how wide is it, so that we will know. You can't always tell——

A. The deck of the boat?

Q. Yes, in that area, that distance from the house to the rail. You can't always tell the distance from a picture. That is why I want you to tell us. You were there. It seems pretty narrow, but can you tell us what it was? There is another picture of it, P-5..

A. You mean from the galley——

Q. No, just from the side of the midship house here.

A. Oh.

Q. In other words, this sailor is standing on C-7 (indicating).

A. Yes.

Q. He is standing in the space between the rail and the midship house, isn't he?

A. The galley is up forward.

Q. Just——

A. The deck is only back forward—it goes out wider.

Q. How about at the center, about where the engineroom door is?

[fol. 161] A. About a yard.

Q. About a yard?

The Court: What pictures are you looking at?

Mr. Byrne: We have been using these three, sir, P-5, P-6, and P-7.

The Court: All right.

By Mr. Byrne:

Q. Mr. Harrington, with only about three feet in that deck there between the midship house and the rail, it doesn't give you a whole lot of room to stand, does it?

A. It is room enough for two men to pass by..

Q. But that is about all, isn't it? It is about three feet wide?

A. I would say it is a yard.

Q. Yes.

You said, I think, that after you saw this fire start, it was about a minute from the time you saw this little flame on the water and the time you went into the engineroom door. Is that what you said?

A. It was—I saw the fire—

Q. Yes.

A. It was just a little bit—no more than I had—if I said a word, then it was all up in flames all of the way around the boat, and I stood there for about—about a minute.

Q. Yes. You stood on the starboard side or the port side, Mr. Harrington?

A. The port side.

Q. The port side. Now, you stood outside in the little space on the deck between the deckhouse and the rail; is that right?

A. Yes, sir.

Q. Now, just—I am going to hit my pencil, and you tell me when to stop.

In other words, I want to figure out how long you stood there. Do you think you could do that? If I said “start” now, and then you tell me when to stop? How long did you stand there?

A. I stood there about a minute.

Q. You don’t understand me, sir. I am not trying to trap you. I want you to understand that.

The Court: Let’s put it this way. I am going to tap my pencil, and then you tell me when you think a minute is up after that. You see, you said you stood there—

Mr. Freedman: Do you want a watch, Your Honor?

[fol. 162] The Court: You concentrate on that and tell me when to stop.

(The Judge tapped his pencil.)

The Witness: Right there.

The Court: Well, that is only about twenty seconds. It is only about one-third of a minute. Now, was that about the time it took you to get into the engineroom?

The Witness: No, sir.

The Court: What?

The Witness: I say it was around a minute.

The Court: Then it was longer than this time that you gave me?

The Witness: Yes.

By Mr. Byrne:

Q. Now, Mr. Harrington—

(To the Court) Excuse me, are you finished?

The Court: That is all right. He sticks to it. It would be about three times as long as—

Mr. Byrne: If the Court please, may I cross-examine the witness? Excuse me.

The Court: May I?

Mr. Byrne: Surely.

The Court: Is that what you meant, Mr. Harrington?

The Witness: Yes, sir.

The Court: All right. Now you can go ahead, Mr. Byrne.

By Mr. Byrne:

Q. Mr. Harrington, I want you, without putting a name on it, whether it was a minute or thirty seconds or two minutes, or whatever it was, I want you to make some sign as to the beginning of the time when you saw the flame, and then from that point, how long it took you to take whatever steps you took.

You had to take a few steps, didn't you?

A. The captain was—

Q. You had to take a few steps, didn't you?

A. Yes, sir, I did.

Q. I want you to just say now when you start, and then tell me—

A. But I—

Q. You knock on that bench there, and then tell me from that time on when you would have gotten in the engine-room as best you can possibly remember. Start any time you want.

A. I will start now.

Q. Go ahead.

(Witness taps.)

[fol. 163] The Court: That is a little less than half a minute.

Mr. Byrne: I made it about thirty-two seconds.

The Court: It is about half a minute.

Mr. Freedman: That is what I did, too.

The Court: Maybe I didn't get started in time. Anyway it is about half a minute.

By Mr. Byrne:

Q. Mr. Harrington, by the time you went in the engine-room door, the fire was so high you could hardly see the top of it? How high was it?

A. It was all of the way around—before I got in the engineroom, the boat—the whole boat was surrounded by fire.

Q. I see.

The Court: How high was the flame? That is what he wants to know.

The Witness: Sir, I couldn't see how high it was. It was higher than what I could see.

The Court: That is all right.

Mr. Byrne: That is okay.

The Court: That is all we want to know.

Mr. Byrne: That is fine.

The Court: He says it is higher than he could see.

By Mr. Byrne:

Q. It was higher than what you could see, and it was on all sides of the boat. Could you see through them, Mr. Harrington? In other words, could you tell now that, "I realize I am surrounded by flames, but the edge of it is ten feet," or fifty feet, or one hundred feet, could you see through them to see how far the fire extended in any direction?

A. No, sir.

I looked up like that, and all I could see was flames, and I looked for the bridge, the Penrose Bridge, and I couldn't see the bridge.

The Court: Did they look solid?

The Witness: What is that?

The Court: Did the flames look solid?

The Witness: Yes, sir.

The Court: You couldn't see anything on the other side of them?

The Witness: No, you couldn't see through them.

By Mr. Byrne:

Q. Can you tell us the color of the flame? In other words, you know some flame is a different color than others, Mr. Harrington. Let me make this plain to you. If you don't know the answer to any question I ask you, just tell me you don't know.

[fol. 164] The Court: He saw the flames. I think he would have some idea of the color they were.

Mr. Byrne: Yes..

A. It was like when you strike a match, the color——

By Mr. Byrne:

Q. Well, now, you see sometimes a match will burn one color and a lighter, for example, might burn another. Unless you think about it a minute you might make the wrong answer. Did you ever think of that, that a match might burn one color?

A. I know.

Q. And you think it is the color that a match would burn?

A. It is like an orange-looking look.

Q. An orange-looking flame. Well, could you see the smoke, what color that was?

A. I didn't look at smoke, all that I saw was flames.

Q. All right, sir, that is all right. Now, Mr. Harrington, when you first saw any fire at all, the first fire that you saw, did you see that while you were still in the galley?

A. What is that, sir?

Q. When you first saw fire, you said a little fire on the water, you were still in the galley?

A. I was right in the doorway of the galley.

Q. All right. In other words, you saw it out of the galley door?

A. The door was open about that much, but you could see from the port, too.

Q. Yes. Now, you said it was about 6 feet, I think, because you pointed out this distance here from——

A. From where I am sitting to there (indicating).

Q. About 6 feet or so. And you said it was off the port after corner of the scow, is that right, so that if that was

to be the corner (indicating)—if this were to be the corner, this (indicating) is the corner, let's imagine the corner of this scow.

A. Yes.

Q. And the flames 6 feet away from it.

Mr. Freedman: Which corner of the scow?

Mr. Byrne: The after port corner.

By Mr. Byrne:

Q. Isn't that what you said, son?

A. That is what I said, sir.

Q. You said 6 feet away. Six feet in what direction? Six feet right straight back (indicating)? Six feet out here on the diagonal (indicating)——

[fol. 165] A. No.

Q. —or six feet this way (indicating)? Now, six feet this way, I mean further to port of the side of the scow.

A. It wasn't on the—we were going away from it when I saw it.

Q. I see. In other words——

A. It was in back of the scow.

Q. —about 6 feet back of the scow?

A. Right at the corner of the cleat, right on the corner of the scow. But we were at the back. When we were going away from it we were at the back. We were running along and it was at the back of the corner of the scow.

Q. I see. In other words, it was a little frame on the water about 6 feet in back of the scow?

A. (Witness nods head.)

Q. Is that the only place it was the first instant you saw it, son?

A. That's right, the first time I saw it. No more than I looked——

Q. In other words, it was 6 feet of clear space?

A. The whole thing just had one complete spot from the scow was like on fire, was like a long streak.

Q. Well, I thought you said the nearest—I thought you said it was 6 feet away.

Mr. Freedman: He just gave you his answer, Mr. Byrne.

Mr. Byrne: Excuse me, Mr. Freedman. I don't inter-

rupt you. Please don't interrupt me. If you want to object—

Mr. Freedman: I object to Mr. Byrne trying to confuse the witness, sir.

The Court: Gentlemen, please. Let me ask him now.

By the Court:

Q. When you first saw the flame did it come right up to the scow or was there clear water between it and the scow, when you first saw it?

A. It was a spot which just went longways, like that there (indicating) near the scow.

Q. A streak?

A. Yes.

Q. Like a streak?

A. Yes.

Q. Did that streak come all the way up to the scow?

A. Go on top of the scow?

Q. No, I mean up to it, not on top of it. Did it go up to where the scow was in the water?

[fol. 166] A. No, it was about—it was a streak, that was about (indicating). I guess the water put it out. It was about that much away from the scow (indicating).

Q. About 3 feet?

A. Yes.

The Court: All right. Now, that is very clear, gentlemen.

Mr. Byrne: There was a stretch of clear water.

The Court: Let's not try to make anything else of it. There was about 3 feet of clear water between the end of this streak—

The Witness: It was like a long streak and had about that much clearance from the scow (indicating).

The Court: That is right, 2½ to 3 feet, I would say from the way you are indicating.

By Mr. Byrne:

Q. Now, in which direction did that flame spread from that single flame, Mr. Harrington, or did it go so quickly you couldn't tell us?

A. It happened so quickly, no more than I looked again, the whole—everything was—the whole river was up in it.

Q. All sides of you?

A. All sides. I kept looking; I got scared and I looked on the other side of the boat and it was on that side, too.

Q. Now, did this fire go right down and sort of burn right up from the surface of the water?

A. It was burning on top.

Q. Right on top of the water. Now, Mr. Harrington, when you testified before the Coast Guard on the 21st of November, 1952—that was very close to the time that this accident happened, wasn't it?

A. Yes, sir.

Q. And you were asked these two questions and you gave these answers:—

Mr. Freedman: What page?

Mr. Byrne: Page 51, Mr. Freedman, questions 13 and 14.

By Mr. Byrne:

Q. You were asked:

“Q. Before you realized the fire was on did you notice any peculiar odor, any odor of oil or anything like that?”

And you answered:

“A: Is always the same natural smell to me, that is all.”

The next question was:

“Q. The good old Schuylkill aroma?”

[fol. 167] And you said:

“A. That's it.”

Do you recognize those answers to those questions, Mr. Harrington?

A. Yes, I did.

Q. Were they right then?

A. Yes, they were the smell of the Schuylkill, of the refinery, they were.

Q. The same one that you smell today if you went down there today probably, is that right?

A. What?

Q. The same odor that you would smell today if you went

down and went across the Penrose Ferry Bridge; you would smell something, wouldn't you?

A. Yes, you would smell like gas and oil and stuff like that there.

Q. And that is what you meant by your testimony?

A. Yes, the smell of gas and oil.

Q. Yes. Now, it got very smoky in the engineroom, didn't it, Mr. Harrington?

A. What's that, sir?

Q. It got very smoky in the engineroom, did it not?

A. Yes, it did.

Q. It got so thick that you couldn't see anyone who wasn't right close to you, within a foot or so, is that right?

A. You could see their figures, like just a shadow.

Q. I see. As if you were in a very dark room, you could see that someone was standing against a background, but you couldn't see who it was, is that what you mean?

A. You couldn't—here's the way. I couldn't see their face. I could just see the outline of them.

Q. Did the smoke in the engineroom have any effect on you, Mr. Harrington?

A. It got me all choked up.

Q. Got you all choked up. Did it make you feel ill, sickly?

A. It just had—for a couple of days I was bringing up black stuff.

Q. But how did you feel right at that time, right when you were still on the tug and right when you were in the water swimming ashore?

A. I was scared.

Q. But did you have any effect from the smoke? Did it weaken you at all?

[fol. 168] A. I was swimming for my life and, sure, I probably was weak, but I didn't know it. I swam as hard as I could.

Q. Mr. Harrington, look, anybody that was there would have been scared. You don't have to apologize for that. Now, Mr. Harrington, you testified that there were certain holes upon which lights on these scows are hung on some occasions, did you not?

A. Yes, sir.

Q. You hadn't worked on the "Herron" very long at the

time of this accident, at the time that this accident occurred; you had been there three or four months, hadn't you?

A. (Witness nods head.)

Q. And sometimes the "Herron" towed tugs alongside of it, or towed barges alongside of her and sometimes she tows them on a hawser astern, isn't that true?

A. Correctly.

Q. Now, you fix the lights whether the tug tows the barge alongside or tows it astern, do you not?

A. When the barge tows on the hawser both men go on there and put the lanterns on the hawser, but when you are towing alongside, one man handles the deck and another man stands on the scow and he hands the hooks to you, these lines that have hooks in them, and he gives you three lines, he gives you your tow line, your stern line and your bow line. Then he makes up to her and if it is during the day you don't use no lanterns, you just come back on the boat or you check your lines. If it is nighttime you put your lanterns out.

Q. Isn't it true, Mr. Harrington, that it is when you tow on a hawser astern that you put these poles up and put the lanterns on top of the poles? That is true, isn't it?

A. When I towed on the hawser on the "Herron"? When I worked on there then?

Q. Well, when you work on there now isn't that true?

A. Are you talking about when I worked on the "Herron"?

Q. Let's talk about now, because I think that is what Mr. Freedman asked you about. Let's talk about now. When you put these lanterns on poles at night it is when the tug is towing with the barge astern on a hawser, isn't it?

A. At times. At all times when we are towing on the hawser we use the pole, and when you have got your scow alongside you use the poles, too. The man will tell you to use poles.

Q. Now, are you sure of that?

A. I will say not all the time you put the poles on.

Q. That is right; you don't always use poles, do you?

[fol. 169] A. No.

Q. But you always use poles when it is on a hawser?

A. You use poles on both jobs; you do.

Q. Well, let's take it one at a time and you can correct me if I am wrong. Is this a true or false statement, you tell me: When you are towing on a hawser—

A. Yes.

Q. —you always put your light on top of a pole?

A. Now I do that, yes.

Q. All right. Tell me if this is true or false: When you are towing alongside, sometimes you put a light on a pole and sometimes you do not put a light on a pole, is that correct?

A. That is according to what you are towing.

Q. Is that correct or not correct?

A. Say that again, sir.

Mr. Byrne: Will you read that to him?

(The question was repeated by the reporter.)

A. It is according to what you are towing alongside.

By Mr. Byrne:

Q. Tell me, is that or isn't it correct, that statement I made? It is either true or it is false, Mr. Harrington.

A. Well, if you are towing—if you are towing different—

Q. No, please answer.

Mr. Freedman: Let him answer. If the Court please, I object to Mr. Byrne cutting him off. He asked him a question and I think the witness is entitled to answer.

Mr. Byrne: Wait. Answer the question—

The Court: I think he may be going to answer it. I don't think he has finished.

By Mr. Byrne:

Q. I don't mean to interrupt you, Mr. Harrington, but I want you to answer my question.

Mr. Freedman: The question is on record and the witness started to answer. I request that the witness be permitted to answer.

Mr. Byrne: He may answer yes or no, then he can explain. That is my understanding of my right to cross-examination.

Mr. Freedman: I don't think you can tell him how to answer..

The Court: All right, start all over again.

[fol. 170] By Mr. Byrne:

Q. Mr. Harrington, will you tell me first whether this thing I say is true or false and then you can say anything you want after you say "true" or "false". Will you do that? Now, my statement—

Mr. Freedman: If the Court please, I object to that. I think the witness should be permitted to answer it in his own way.

The Court: Mr. Freedman, there is no occasion whatever for you to put that objection in. Please let Mr. Byrne finish his question and see whether the witness can answer it.

By Mr. Byrne:

Q. When you are towing a barge alongside the tug, sometimes you put the lights on the barge up on the pole and sometimes you do not put them up on a pole. Is that—

A. It is according.—

Q. No, please tell me whether that is true or false and then explain. If it is false, that is all right.

A. No, I am trying to tell you there is different pieces of equipment you can't use a pole on and there is other equipment you can use a pole on.

Q. Mr. Harrington—

By the Court:

Q. Do you mean there are some barges you can't use a pole on?

A. No. You have a coal heister or they have an oil barge and you have a—a coal heister and a coal barge, they don't have no place to put a lantern up high. But on some

of their equipment you have got places to put it up high, and other times you put them right down on deck.

Q. Well, take mud scows. Now, do you always put them on a pole with a mud scow?

A. If you—sometimes you put them on a pole and other times you are liable to—if you can get—if the mate don't—if the mate let's you get away with it, you can get away with it. All the time you can't get away with putting the poles out and other times you can get away with it.

Mr. Byrne: If the Court please, I don't want to stay here all day, but I want a yes or no answer to this question.

By Mr. Byrne:

Q. Mr. Harrington, please. This statement is true or false. Now, you can make a speech for a half hour after you say "true" or "false". Now, please. Sometimes you tow a barge, a mud scow similar to the one that was alongside the "Herron" the night of this fire; sometimes when you are towing it alongside you use the pole to support the lights and other times you put the lights on the deck. True or false?

[fol. 171] A. Sometimes you do.

Q. True or false?

A. (No response.)

Q. True or false, Mr. Harrington?

A. It is true.

Q. It is true. Now go ahead and explain.

The Court: It is true what, in what respect?

A. Well, sometimes you put your pole—you have different pieces of equipment you have got to use a pole on and other pieces of equipment you can't use a pole on on account they have no place for a pole and you put it on deck. And then other times you won't have no poles aboard the boat. On a mud scow you put your light on top of the hatch, you do. So it is higher.

The Court: All right.

A. (Continuing) So when you are going down the river and a ship passes you you can't knock your lantern off.

By Mr. Byrne:

Q. Mr. Harrington, sometimes the captain tells you to use poles and sometimes he doesn't tell you to use poles, is that right?

A. That is true.

Q. But never when you are towing on a hawser, you always use poles when you are towing on a hawser, is that correct?

A. At times I worked on there when they didn't have the poles and you put them on top of the hatches, but now—

Q. If you have the poles available you always use them when you are towing on a hawser, is that correct?

A. Not all the time, no.

Q. Well, I understood you so to say. Now, when you are towing on a hawser astern do you not use the poles to support the lanterns?

A. You put the poles up there and you put your lanterns up there.

Q. Is there any time when you don't do it that way, or do you always do it?

A. In daylight you don't do it.

Q. I mean at night.

A. At nighttime you use the poles.

Q. Always?

A. The way I am working now, yes, you always use poles.

Q. That is what we are talking about. Mr. Harrington, in the period of time between the start of the first small fire on the water and the time you got in the engineroom you said that you had an opportunity and did in fact see the wheelhouse, did you not?

[fol. 172] A. I stood—I was standing between the engine, I mean, the galley door. I had one foot in the galley door and my other foot hanging out of it.

Q. Go ahead.

A. Then I went down the deck.

Q. Aft?

A. Yes, sir, back to the engineroom.

Q. Did you see the wheelhouse?

A. I looked up there.

Q. Now, at the time you looked up and saw the wheelhouse, where were you on the deck of the tugboat, sir?

A. When I was running back there?

Q. Yes.

A. I was about, let's see, one, two—the engineroom, I don't know how far back.

Q. Let me do it this way, you were between the galley—

A. I was about the center, between the engineroom and the galley. I was about in the center.

Q. That is right. And then you turned around and looked back, is that right?

A. I was looking around at the fire, where it was all at, so I had to—when I went down there I was looking around to see where the parts of the fire was at.

Q. But you were going from the galley door to the engineroom door and you were running along this little deck which is about a yard wide, is that correct?

A. Yes, sir.

Q. And therefore if you were running from the galley door—

A. I wasn't what you call actually running hard, I was moving fast, I mean, walking fast to get in the engineroom.

Q. Flames were coming up over the water right alongside the rail of the tug, were they not, and the tires were—

A. See, the mud—

Mr. Freedman: Let him finish. You asked him a question, let him finish, please.

Mr. Byrne: I hadn't finished the question, Mr. Freedman.

By Mr. Byrne:

Q. I said the flames were coming up from the water right alongside the tug, and the tires hanging over the rail were afire, is that correct?

A. No, they wasn't afire yet, they wasn't, on account of the scow is up against them tight and the boat is up against them tight (indicating).

[fol. 173] Q. Were you on the port or the starboard side? I thought you said you were at the starboard door.

A. No, I was on the port, sir.

Q. Now, you turned around when you were traversing that distance; you turned around and you saw the pilot house?

A. I am going down the deck, I am looking to see—

actually I am out of the galley, quite a ways out of the galley. I made like a small, turned my head to see where the fire was. I was looking up at the same time, too, and I was looking to see how high the flames were.

Q. And at that time you saw the pilot house, is that right?

A. When I was looking up in the air for the bridge, looking up to see if I could see the bridge.

Q. At that time what could you see of the pilot house? You could see the portside after corner, was that about all?

A. When I was looking up like that I could see just this side of the pilot house, but I could see the pilot house on account of I was on that side, I was on the portside, I saw the portside of the pilot house.

Q. That is right. And you say that side was not yet afire? What you saw of the pilot house was not yet on fire, is that correct?

A. It wasn't on fire.

Q. All right. But beside that you saw was the side next to the scow, is that correct?

A. Correctly.

Q. And you don't know whether it was afire on the starboard side or the forward part, do you?

A. No, sir, I couldn't see all the way around there. I couldn't run around the deck just to look at that.

Q. But those flames were then higher than you could see the top and it was only about the width of this little deck between the edge of the ship and the edge of the pilot house; is that correct?

A. Say that over again, sir?

Q. The flames were so high you couldn't see the top of them and they were coming right off the water right outside the tug's rail?

A. Where I was standing, the flames?

Q. No, opposite the pilot house.

A. On the other side? You are talking about the portside?

Q. Well, we better start over again, sir. These flames that were so high you couldn't see the top of them, did they come right up to the edge of the tug?

[fol. 174] A. Oh, they wasn't—the scow is in between there and the boat was there. The flames was high, yes,

but they wasn't in between the scow and the boat there on account of they are both together, the boat and that was both together (indicating).

Q. But at a place where the tug was not up against the scow did the flames come right up?

A. Yes, sir.

Q. And the only distance that the pilot house fits inboard from the rail of the tug is about the yard which is the same distance that the little deck is wide, is that right?

A. It is a yard.

Mr. Byrne: All right, that is all.

The Court: All right.

Mr. Freedman: I have just a couple questions, Your Honor, very short.

Redirect examination.

By Mr. Freedman:

Q. Now, at any time before the accident or during the trip at the time that you took this trip, had you been furnished any of these poles on which to place the lanterns?

A. No, sir, I hadn't any orders to pick up any poles and the captain--and I never saw them on board, the poles.

Q. Who gave you the lanterns to put up?

A. Donale.

Mr. Byrne: Who?

The Witness: Donald.

By Mr. Freedman:

Q. Well, did the mate have anything to do with the lanterns? Did he see them?

Mr. Byrne: Objected to.

A. Yes, he seen the lanterns.

The Court: Who is Donald? Worrell?

Mr. Freedman: Donald Worrell.

The Court: All right.

By Mr. Freedman:

Q. Were they ship's equipment?

A. What do you mean, were they good lanterns?

The Court: No, do they belong to the ship or did they get them from the shore or the dock?

The Witness: No, they were on board.

[fol. 175] By Mr. Freedman:

Q. Were they the lanterns that were supposed to be put on there? Were they your instructions?

A. Yes, sir.

Q. When did they start using the poles first?

Mr. Byrne: I think that this is objectionable, sir.

Mr. Freedman: I just want to establish the time, Your Honor.

The Court: Well, when did you first start using poles?

The Witness: Well,——

The Court: This is all subject to Mr. Byrne's objection.

By Mr. Freedman:

Q. When?

A. I was on vacation and I came back off two weeks' vacation and——

The Court: Well, we don't know when you were on vacation, so tell us when it was.

By Mr. Freedman:

Q. When was this?

A. The end of June, about the first week in August it was.

By the Court:

Q. After the accident?

A. Yes.

Q. The first summer after the accident?

A. No, this year I am talking about.

By Mr. Freedman:

Q. 1955, just this past August?

A. Yes. July I came back off vacation and I went out on the scows and the deckhand says, "Here, take them poles" when we were making our tug. So I says, "What are they?" He said, "We have got to put them up now."

By the Court:

Q. That was this last summer?

A. This summer here, yes.

Mr. Freedman: August of '55. That is all, sir.

The Court: All right.

Recross examination.

By Mr. Byrne:

Q. Before the Coast Guard you were asked some questions—

Mr. Freedman: Page, please?

Mr. Byrne: Page 53.

Mr. Freedman: Question, please?

Mr. Byrne: 33.

[fol. 176] By Mr. Byrne:

Q. You were asked this question and you gave this answer, Mr. Harrington:

"Q. Were these lights burning brightly when you left the dredge?"

And your answer:

"A. Yes; they were cleaned and all. The day crew clear them. All you got to do is light them up and put them on the scow."

Did you so answer at the Coast Guard?

A. Yes, sir.

Q. And that is correct?

A. They were cleaned on the day watch and all you have got to do is light the lanterns and put them on the scow.

Q. And they were in good shape when you put them out?

A. Very good shape. They were cleaned and everything else. The globe was cleaned, washed.

Mr. Byrne: All right.

(Witness excused.)

The Court: We will recess for ten minutes.

(Recess 3:10 to 3:20 o'clock, P.M.)

[fol. 177] EDWARD W. WOOTERS, having been duly sworn, was examined and testified as follows:

Direct examination.

By Mr. Freedman:

Q. Mr. Wooters, what is your occupation?

A. I am a merchant marine consultant.

Q. Will you state briefly what your experience has been in that field?

A. Well, I have been operating a school for merchant marine officers for the past five years, an operating school, and I do surveys and that sort of thing, in addition to teaching these men.

Q. Before we get to your school, will you tell us what experience you had as a seafaring man?

A. I have about twenty years at sea.

Q. What licenses do you hold?

A. I hold at the present time chief mate of oceans. I am on the second issue.

Q. Do you have that license with you?

A. No, I don't.

Q. Chief mate all oceans unlimited?

A. Chief mate of oceans unlimited.

Q. What kind of vessels did you sail on and in what areas?

A. Cargo, passenger, tankers.

Q. Do you have much experience on tankers?

A. The last ten years.

Q. Did you ever sail on tugboats?

A. Yes, I have worked on a tugboat on the Delaware River.

A. And you have sailed under your license for how long?

A. Twelve years on my license.

Q. Now, you said that you did sail on tankers, and I take it that that was in the transportation of petroleum products.

A. That's right.

Q. Did you become familiar with the characteristics and properties of petroleum products?

[fol. 178] A. Yes, sir.

Q. And with all of the safety precautions which are recommended and advocated by the various safety councils?

A. Yes, sir.

Mr. Byrne: I think that is too general, sir.

The Court: I don't see why it should not be general. If he is familiar with them all, that is all we want to know.

Mr. Byrne: Well, what are they?

The Court: Well, find that out later on. He says he is familiar with them all.

By Mr. Freedman:

Q. Now, in your school that you have been conducting for five years for merchant marine officers, is that to qualify them for licenses for their examinations by the Coast Guard?

A. That is correct.

Q. What officers does that include?

Q. Well, I prepare seamen for original licenses and—

Q. When you say "original" what do you mean by that?

A. Their first license. It may be an original third mate, it may be an original second mate, and in the case of Navy men coming out of the service, I have even had original chief mate and original master licenses. And in the case of foreign officers who become naturalized and who have a master's license under a foreign government, after they

become naturalized they can sit for an original master's license in America. I have prepared those people.

Q. Do you include instructions in your school to men operating tugboats on the rivers?

A. Yes, sir.

Q. Are you familiar with the various regulations concerning the operation of tugs and their tows?

A. Yes, sir.

Q. Are you familiar with the various practices and safety precautions incident to the operation of the tugs and tows on the rivers, such as the Schuylkill and Delaware Rivers?

A. I have to be because that particular examination covers regulations more than anything else.

Q. Now, Mr. Wooters, it has been testified in this case that the tugboat "Arthur N. Herron" proceeded with a loaded scow from the Atlantic Refining dock in the Delaware River en route to a dumping point near the mouth of the Schuylkill. Did I say Delaware? I meant to say Schuylkill River, at the Atlantic Refining dock in the Schuylkill River to a dumping place.

[fol. 179] The Court: You mean the Gulf Refining dock. You said the Atlantic Refining dock in the Delaware River.

Mr. Freedman: Atlantic Refining dock in the Schuylkill River.

The Court: The Gulf Refining.

Mr. Freedman: No, this time I meant it.

The Court: Oh, then I am wrong. I take it back. This time you really meant it.

Mr. Freedman: I think for the information of the Court, I don't believe that this will be of too great importance, the dredge "Baltic" on this occasion, if I may state it for the information of the Court, was dredging an area for the Atlantic Refining Company dock in the Schuylkill River. Is that correct?

Mr. Byrne: No, no, it was working I believe at what was called the City—some City and some other name Wharf on the Chester side of the river just below the Atlantic Refinery but near it.

Mr. Freedman: I will tell you, Captain Taylor ought to know. Let's ask him. Do you mind if I ask him the question while he stays there, so I get it straight?

The Court: No.

Mr. Freedman: Captain Taylor, can you tell us where the dredging was taking place in the Schuylkill River, please?

Captain Taylor: It was working right on the upper side of the Atlantic Refining Company, right near the dock. I don't know if it was working for the Atlantic or the City. I don't know.

Mr. Freedman: In any event, it was at the Atlantic Refining Dock in the Schuylkill River?

Captain Taylor: It was.

Mr. Byrne: I beg your pardon, the captain didn't say that.

Mr. Freedman: It doesn't matter, that was——

Mr. Byrne: If you want it exactly I can get it for you.

The Court: Nobody cares anyhow.

Mr. Freedman: All that I care about is to show the general limits, the point of origin and the point of destination of the tug.

Mr. Byrne: Very close to the Atlantic Refining dock.

Mr. Freedman: That is all I was interested in. So this time we really did have the Atlantic dock in the case.

The Court: All right.

By Mr. Freedman:

Q. May I start my question over again. Captain, it has been testified here that the tugboat "Arthur N. Herron" was proceeding with a loaded scow, mud scow, from a point near [fol. 180] the Atlantic Refining Company dock in the Schuylkill River to a dumping place near the mouth of the Schuylkill. When she started on that voyage the scow was tied up to the port side of the tugboat and it was at approximately 10:30 at night, when it was dark, and the deckhand, pursuant to instructions, placed two lanterns on the outboard side of the scow at the forward and the after ends of the scow right on the deck of the scow; that there was about two and a half feet of freeboard to the deck of the scow.

Captain, first of all—well, let me perhaps finish the hypothetical question and I will come back and ask you a few questions based on that "hypo."

Assuming also that after she left her dredge at the Atlantic Refining Company or near the Refining Company dock she proceeded downriver, bucking a flood tide with a 4-mile an hour southeast wind, and with the humidity and other atmospheric conditions as set forth in Claimants' Exhibits 22 and 23—

Have you seen these?

A. No, I haven't.

Q. Will you please take a look at them?

Mr. Byrne: If the Court please, I must object to including all of this data in a hypothetical question. If you want to pick out something in it, Mr. Freedman—it covers about eight days in some instances.

Mr. Freedman: What difference does it make if it has any relevancy? If it doesn't have any relevancy then—

Mr. Byrne: I object, sir. If you want to see why I object, here it is.

The Court: What is it he is looking at?

Mr. Byrne: Weather Bureau data for about a week.

Mr. Freedman: The humidity and temperatures, and so on.

The Court: I will permit him to take it into consideration.

Mr. Freedman: It is an exhibit in the case.

The Court: If it isn't relevant it won't affect the value of his testimony.

By Mr. Freedman:

Q. Now, assuming that she proceeded down the river, as I said, against the flood tide, and when she got to a point close to or opposite the Gulf Refining plant the captain left the bridge for a cup of coffee and left the deckhand in charge of the bridge, and while he was in the galley or as he was coming out of the galley there was suddenly a fire near or at least it was observed off the port side of the vessel, near the stern of the scow, and shortly thereafter the water surrounding the tug and her tow was enveloped in flames;

[fol. 181] That the master, that is, Captain Taylor, delayed on the deck of the tugboat for about a minute and then proceeded into the engine room, where his first order was to

stop the engines, his second order was to batten down the hatches, his next order was to reverse the engines, and then, according to the testimony of Captain Taylor, after the vessel had gone astern, or after the engines on the vessel had been put astern for about three minutes, that all hands go overboard, abandon ship; that he gave no orders to the men to don life jackets or to man the fire-fighting equipment; that he went to the stern, where he found the cook there putting on a life belt and the cook went into the water first and he followed him;

That after they were in the water he swam over to where the cook was and held onto the cook's life jacket while swimming ashore; that at that point the ship was approximately 250 feet from shore; that after they had swum approximately fifty or one hundred feet he heard cries from another member of the crew behind him, who he thought was Whitey, the engineer, crying for help, and he encouraged him, he yelled back and encouraged him, yelled "Come on" and that thereafter he swam to the dock.

Captain, assuming all of those facts are you able to state, first of all—let's go back to the lights—whether placing the lights on the scow, on the deck of the scow, was proper or was in violation of any law?

Mr. Byrne: Don't answer that. That is objected to, sir. If it was a violation of the law that is a matter for the Court, not for this witness.

The Court: Yes, that isn't the question. I mean to say I can tell whether it was violation of the law or not. I don't think that is—

By Mr. Freedman:

Q. Well, was it good seamanship?

The Court: That is a different question.

By Mr. Freedman:

Q. Aside from the fact that there might have been a violation of a regulation,—

The Court: Entirely irregardless of the—

Mr. Freedman: First of all—

Mr. Byrne: I object to the inference that is made, sir, unless the Court is prepared to stop and interpret the statute now. I have it now.

The Court: No, I say leaving the statute out of the question altogether.

Mr. Byrne: Then Mr. Freedman said, "Entirely aside of whether there was a statutory limitation." That is when I jumped up, because if we are going to leave it out, let's leave it out.

Mr. Freedman: No, let me ask him. I want it in.

Mr. Byrne: Let's ask the question.

[fol. 182] By Mr. Freedman:

Q. Is there any regulation which governs the placing of lights on a scow, such as was required in this case?

A. Before I answer you stop calling me captain. I am not a captain.

Q. Excuse me.

A. That is the first thing. The next thing is there are regulations that govern this situation.

* * * * *

Q. I don't know whether I omitted to state the date and hour of this occurrence, Mr. Wooters. This took place at approximately ten p.m. or shortly thereafter, that is, the fire itself took place at approximately a few minutes past ten or shortly after ten o'clock on November 18, 1952. Now, do you have my question, my preceding question?

A. Whether it was good seamanship—

Q. I think I did ask you—no, wait, I think the first question I asked you was whether or not the placing of lights on a scow such as this is governed by any regulation.

A. I said yes, it was.

Q. And can you state what that regulation is?

A. Do you want me to read the regulation or do you want—

Q. If you will refer to it for the Court and the record.

A. It is regulations under Title 33, Navigation in Navigable Waters, and the section is 80.16, subparagraph H.

Q. Now, will you read the pertinent part of that regulation which indicates just what has to be done regarding these lights?

Mr. Byrne: No, I don't think any part of it, sir; I think if you are going to read it you ought to read it all.

The Court: All right, let him go.

By Mr. Freedman:

Q. All right, read it all.

A. Scows not otherwise provided for in this section on waters described in Paragraph A of this section shall carry a white light at each end of each scow, except that when such scows are massed in tiers, two or more abreast, each of the outside scows shall carry a white light on its outer bow, and the outside scows on the last tier shall carry, in addition a white light on the outer part of the stern. The [fol. 183] white light shall be carried not less than eight feet above the surface of the water, and shall be so placed as to show an unbroken light all around the horizon, and shall be of such a character as to be visible on a dark night with a clear atmosphere at a distance of at least five miles.

Q. Now, aside from the regulation, from the standpoint of good seamanship are you able to say whether there was any practice and, if so, what it is?

A. Well, the law says, that is, the regulation says it is to be eight feet.

Mr. Byrne: I object.

The Court: Well, what he wants to know is suppose there was no regulation, what would be your opinion of carrying a light?

Mr. Byrne: That wasn't his question. The question was there any practice.

Mr. Freedman: What Your Honor said is exactly what I have in mind.

The Court: I think you are right about that. Well, go ahead.

Mr. Freedman: I will rephrase it just the way Your Honor said it.

The Court: All right.

By the Court:

Q. Suppose there was no regulation whatever on the subject here.

A. I think the light should be high enough that you could see it without having anything to interrupt it, the view.

Q. And do you think that it would be proper seamanship to carry it standing on the—well, it was on the deck of the scow, wasn't it, or the coaming of the scow?

A. Yes. No, I don't think that is good, Your Honor.

Q. Well, now, tell us why not.

A. There is nothing in the world to prevent it from being knocked over by, oh, anything could happen. You never know what is going to happen on a boat. You can't see it all the way around because it is on the deck and when it is placed that way you have got a coaming where they dump the mud, in this particular case. You can't see it except on perhaps the front and one side. It could be washed away. I don't think it is good practice. I think it is in a position where it could be put out of commission very readily.

By Mr. Freedman:

Q. Now, I ask you to take into consideration an additional factor, that this tow was operating in the Schuylkill River opposite or along which we had a number of refineries, including the Gulf, the Esso and Atlantic. Would the height [fol. 184] of the light—and may I add to my question that the light in this case was an open flame kerosene lamp. Would the height of the lamp on the scow make any difference from the standpoint of good seamanship?

A. Well, this is a case I believe that any concentration of gas on the water would probably be right into where the flame is, in other words, the gas coming from the refinery, because in any refinery you are going to have escaping gases.

Mr. Byrne: I object to this statement. This man is not qualified in petroleum.

The Court: Yes, I don't think he has qualified himself on all the properties of petroleum. Maybe he has.

Mr. Freedman: I don't think he has to be an expert on petroleum to know about fumes escaping and the danger which is inherent in a voyage of this sort.

The Court: Well, then, if that is so I don't need any testimony on the subject, because I am not an expert either.

Mr. Freedman: Well, if Your Honor was a sea captain that might be a help, but I think that as a man who has been on the waters in the areas where gases escape, and he encounters the dangers and knows what the recommendations are regarding the safety precautions, and so on, I think perhaps that might qualify him to venture an opinion here.

Mr. Byrne: I think it would be merely venturing a guess, sir, based on the record here.

Mr. Freedman: I don't think there is any guess involved. I think it is a matter of good judgment.

The Court: Well, I don't even think it is that. I think it is fairly obvious that it is not safe to bring a flame in contact with gas vapor or oil, it will produce fire. Everybody knows that. You don't need an expert for that.

Q. —let's take the next point. I think I told you that as the vessel approached or came opposite the Gulf Refinery—may I add to that hypothetical question the additional facts that at the time that this vessel came abreast or in the area of the Gulf Refinery docks, there were seven vessels loading or discharging—

Mr. Freedman: Does Your Honor have that chart?

The Court: The big chart?

Mr. Freedman: The big one, sir, yes.

The Court: Yes, I believe I do.

[fol. 185]. Mr. Freedman: Thank you, sir.

By Mr. Freedman:

Q. (Continuing) —loading or discharging at the spillways which start down here (indicating), and I will give you the exact number of the vessels. Were you in the courtroom when I offered in evidence, Mr. Wooters, the nature of the oils which were being loaded or discharged?

A. Yes, sir, I believe I was.

Q. Did you hear also the names of the vessels which were docked at the plant?

A. I heard them but I don't remember them.

Mr. Byrne: Just hand him the sheet of paper, Mr. Freedman.

Mr. Freedman: The reporter has that. Well, I think for the time being I can go on and correct it later if necessary. The reporter has my interrogatories with the information on them.

By Mr. Freedman:

Q. There were seven vessels at those spillways, I think from No. 2 to No. 11, either loading or discharging petroleum products. Now, taking those additional facts into consideration, as I said, as the vessel came abreast or approached the Gulf Refinery area, the captain left the bridge in charge of a deckhand, Deckhand Worrell. In your opinion was that good seamanship?

A. I don't—

Mr. Byrne: Objected to.

The Court: I will take it subject to your objection.

Mr. Byrne: Sir, the man can't express any opinion because there is no hypothesis as to what the ability of Worrell was.

Mr. Freedman: No what?

The Court: No, I don't think that that is necessary. Of Worrell?

Mr. Byrne: Of Worrell.

Mr. Freedman: Worrell was the deckhand.

Mr. Byrne: None of these men are licensed or required to be licensed.

The Court: Yes, I think that is a good objection. I do. You could ask was there any fault involved or lack of seamanship in the captain leaving the bridge generally, but Mr. Byrne is right, Worrell may have been a better man than the captain, for all we know.

Mr. Freedman: But there is one thing Mr. Byrne overlooks, and that is as far as the limitation petition is concerned it is his burden to demonstrate what the qualifications may be if they are relevant. If he was a deckhand he may have been a good deckhand but he was not a good captain. The fact he was—

[fol. 186] The Court: That all may be true, but we are trying to determine whether that is a question which the witness can properly answer. The burden of proof has

nothing to do with that. I don't see how he could answer it unless he knows whether the man in charge of the wheel was an expert helmsman or not. I think Mr. Byrne's objection is a good one.

Mr. Freedman: Very well. I will modify it, sir.

By Mr. Freedman:

Q. Assume further, Mr. Wooters, that at the Gulf Refining plant where these vessels were loading or discharging there were red lights being shown. First of all, can you tell us what those red lights mean?

A. Well, the red light shows all around the horizon from a tanker or from any vessel, as far as that is concerned, indicates that they are either loading or discharging explosives or explosive material. In other words, it is a danger signal, it is a warning.

Q. Now, in approaching that kind of an area would you say that good seamanship required a man of experience and ability to man the bridge?

Mr. Byrne: Objected to.

The Court: Well, what you want to know is whether it required that the captain of the vessel remain on the bridge, regardless of other qualifications of other persons who may or may not be there. Isn't that what you want to know.

Mr. Freedman: That is what I tried to find out before and I thought Your Honor sustained the objection.

The Court: No, I think that what you were directing it to before was whether it was safe to leave it in charge of a deckhand. What I am asking—and I think it is a proper question—is whether in a situation like that the captain, regardless of how well qualified the rest of the crew were, should the captain remain on the bridge or in the deck house?

The Witness: I think he should.

Mr. Byrne: If the Court please—

The Court: I will allow you an exception to my question.

Mr. Byrne: No. Sir, I am going to move to strike the witness' answer and the question for this reason: The question contains the word "area."

The Court: "Area"? Did I——

Mr. Byrne: Yes, sir; yes, sir. Now, what is the area?

The Court: When did I say "area"?

Mr. Byrne: No, not your question but Mr. Freedman's.

Mr. Freedman: Well, the area is the immediate vicinity.
[fol. 187] The Court: Mr. Freedman's question wasn't answered. My question was answered and I think it was all right. But I will allow you an exception to it.

Mr. Byrne: Not to your question, if that is all the witness answered?

The Court: That is all he answered, I think. Yes, I so understand it.

By the Court:

Q. In other words, in your opinion the commanding officer of the vessel in the situation described ought to be on the bridge, is that your thought?

A. Yes, sir.

Q. Without regard to how well qualified other members of the crew may have been?

A. With no stipulations about it.

The Court: That is right.

Mr. Byrne: I can't hear you, Mr. Wooters.

The Court: He says with no——

The Witness: Stipulations.

The Court: —stipulations.

Mr. Byrne: What does "no stipulations" mean? I don't——

The Witness: Well, what I mean is while you are in a tanker area the master of the vessel should be where he is in command of the vessel, and in the case of a tugboat it is in the wheelhouse.

The Court: Yes, that is all right.

By Mr. Freedman:

Q. I was just going to ask you for the reason, but I think you have given it. Now, the next step was immediately after the fire broke out the captain went from the galley to the engine room and a period of about one minute elapsed from the time the fire broke out until the time

he entered the engine room, during which time he gave no orders. Are you able to state whether under those circumstances and during that period he exercised good seamanship?

Mr. Byrne: Read me the question.

(The question was read by the reporter.)

By Mr. Freedman:

Q. Do you understand the question, Mr. Wooters?

A. Yes, I think I do. In my opinion it was an exhibition of very poor seamanship.

Q. Will you state why, please.

A. Well, I think that on a tanker, or on the ship involved—

Mr. Byrne: What? On a tanker, did you say?

[fol. 188] The Witness: Now, wait a minute. On a tanker or a ship involved in an oil fire, the first thing you should do would be to make some effort to put the fire out immediately, not wait, but to start immediately. That is the first thing. That is as far as we have gone.

By Mr. Freedman:

Q. Are there any regulations generally covering other vessels, other types of vessels, regarding the manning of fire-fighting apparatus in such circumstances?

Mr. Byrne: Objected to. Other vessels have nothing to do with this case.

The Court: I think that is right. I will sustain the objection.

By Mr. Freedman:

Q. Captain, what would you say regarding the practice of fire and life boat drills? In your opinion would good seamanship require lifeboat and fire drills for this vessel?

Mr. Byrne: Objected to.

The Court: I will overrule that objection.

A. I think that any crew of any vessel should have regular fire and boat drill practice, because it is a job that they are not accustomed to doing regularly and only by practice are they going to be able to protect themselves if they get into a jam.

By Mr. Freedman:

Q. When you say "by practice," how frequently would you say good seamanship would require that these drills be held?

A. Once a week.

Q. On licensed vessels let me give you a situation. There are steam tugs which ply the same river, are there not, Mr. Wooters?

A. Yes, sir.

Q. Those tugs are required to be licensed?

A. They are inspected vessels.

Q. They are required to be inspected, yes. And are they governed by the regulations concerning fire and lifeboat drills?

Mr. Byrne: Objected to, sir. I don't see what any other tug has—

The Court: I don't know, there may be some reason.

By Mr. Freedman:

Q. Are they engaged in the same work that this Diesel tug is engaged in?

A. Yes, sir.

Q. Do they perform the same services?

A. Normally.

Q. Is there any essential difference, so far as lifeboat and fire drills are concerned, as between these two types of vessels?

[fol. 189] Mr. Byrne: If the Court please, I must object. The question presupposes an answer which would invade the field of Congress or the Coast Guard, the agency in which the regulatory power has been imposed.

The Court: I don't think that makes much difference, but I think the real objection is that it doesn't add a thing

to what he has already said. He says he thinks good seamanship requires it.

Mr. Freedman: But I want to show Your Honor—

The Court: That is all right, but you don't need to show any more than that. It is a matter for cross-examination. I don't think it is necessary.

Mr. Freedman: All right, sir.

By Mr. Freedman:

Q. Now, in this case the captain did not have any or conduct any fire drills and according to his statement he had lifeboat drills about twice a year and he could put a boat overboard in about fifteen or twenty minutes, according to his testimony.

Mr. Byrne: Objected to. I don't think that was the testimony.

Mr. Freedman: What do you think the testimony was?

The Court: I think you got that from the other case.

Mr. Freedman: Ten minutes was from the other case, less than ten minutes.

Mr. Byrne: No, that is why I got the other case, because it showed that what this man said, ten minutes, was within what Judge Kirkpatrick—I am perfectly willing to have the record referred to.

Mr. Freedman: We can look at it later.

Mr. Byrne: Do you have your copy of the daily transcript? Look at it.

Mr. Freedman: Give me my question.

(The question was read by the reporter.)

Mr. Byrne: That is the question I objected to.

The Court: All right, if that isn't borne out by the record then the question goes out. Let him answer the question.

By Mr. Freedman:

Q. All right. Let's say fifteen minutes, approximately fifteen minutes was my recollection that the captain said it takes him to put a lifeboat overboard. Would you say that that evidenced that this crew was properly trained?

A. That proves my point, they weren't because it shouldn't take anything like that.

[fol. 190] Q. Have you had experience in launching lifeboats from a tug comparable to this one?

A. Yes.

Mr. Byrne: Excuse me, will you repeat—

The Court: "Have you had experience in launching lifeboats comparable to this one."

Mr. Byrne: If that is all that is in it, I object to it.

The Court: Oh, I think that is a good objection. I just can't tell. They are not all alike.

Mr. Byrne: Nor are the vessels from which they are launched all alike.

By Mr. Freedman:

Q. Is there standard equipment on these tugboats, Mr. Wooters?

Mr. Byrne: Objected to. This man hasn't qualified on tugboats, sir.

A. I can't answer that, I don't know.

By Mr. Freedman:

Q. Are you able to state the period of time which a properly trained crew will take in launching a lifeboat from a tugboat?

Mr. Byrne: That is objected to. That is the same question Your Honor ruled on two questions ago.

The Court: Yes, I think it is the same question. The fact is he says regardless of what they did or how they did it, he says two drills a year is not enough. Isn't that what you said?

The Witness: Yes, sir.

Mr. Freedman: I now would like to direct Mr. Byrne's attention to page 231 of the record, where I asked Captain Taylor how long it took him to do it and his answer was "It takes about fifteen or twenty minutes."

The Court: Yes.

Mr. Byrne: I stand corrected.

The Court: All right, the question stands and the answer stands.

Mr. Freedman: At least my confusion between the Gulf and the Atlantic Refining Company hasn't spilled over to the other.

The Court: Oh, yes, you are vindicated completely.

By Mr. Freedman:

Q. Now, Captain, the next thing that the captain did—or, Mr. Wooters, the next thing that the captain did was as soon as he got into the engine room to order the engines stopped and thereafter batten down the hatches and then put the engines in reverse for about three minutes and then stop them before he went overboard.

[fol. 191] In your opinion was he exercising good seamanship?

A. I think that was the worst of all.

Q. Would you state why, please?

A. A moving vessel through an oil fire will tend to push the water away from the vessel and in so doing it will keep the fire from starting on the boat, as it did in this particular case, and the chances are you will run out of your fire.

Q. Is that standard practice?

Mr. Byrne: Objected to.

The Court: No, that is all right.

Mr. Byrne: How can there be standard practice in that situation?

The Court: Well, there may be. I don't know.

Mr. Byrne: I object to it, then, on the fact that this witness doesn't know—

The Court: I think you have something there. Standard practice, I doubt if there is a standard practice.

Well, I don't know, there might be. I will allow the question to be answered subject to your objection.

A. It is a very reasonable conclusion if you keep going the burning oil is going to be in back of you, or at least you are going to get out of it. If you stop and back you are going to pull the water around your vessel and you are going to stay right in the fire; you are not going to get away from it. You are just putting yourself in the middle

of a hole of fire and staying there, but if you keep moving the chances are you will get away from it because it is not going to be every place.

The Court: The tide was flood.

The Witness: Sir?

The Court: The tide was flood.

The Witness: The tide wouldn't have anything to do with it, sir, because——

The Court: Well, it carried the oil upstream.

The Witness: —the boat itself would be moving faster than the tide.

The Court: I understand that, but I am wondering whether that wouldn't make it worse to back because the oil would be carried upstream.

The Witness: Well, the very action of the propeller reversing itself is going to suck the water under the boat and around the boat and consequently the oil which is on the fire is going to go with it.

The Court: All right.

By Mr. Freedman:

Q. The fact, Mr. Wooters, as the Court pointed out, that the tide was flood, that meant when the vessel was going backward the current was going right in the same direction and carrying the fumes with it. Is that a fair conclusion?

A. I think so.

Mr. Byrne: Oh, that is objected to. That is counsel's conclusion, sir.

The Court: No, the objection is overruled. It is a slightly leading question, but otherwise——

[fol. 192]

By Mr. Freedman:

Q. Now, the next thing, Mr. Wooters, the captain after the last maneuver, the last order that I told you about before, ordered the vessel stopped and then he ordered the man to abandon ship. He went out the door—well, let me add to the hypothetical one more fact here: When he gave his last order—first the three orders, that is, the first one to stop and the second to reverse were carried out by the engineer. When he gave the third order to the engineer

to stop the engines he got no response so he stopped the engines himself and then gave the order to abandon the vessel and he was the first one out of the engine room and he went to the stern and went overboard with the cook, whom he found there.

Would you say that is proper seamanship for the captain under the circumstances?

A. I don't know what you would call it, Mr. Freedman. I don't know. It is against tradition for the master of his vessel to leave before anybody else. He doesn't normally leave his crew there to get cooked.

Q. Captain, is it recognized in the industry that the master holds the safety of all of his crew in his hands; that they rely on him?

Mr. Byrne: That is objected to.

The Court: I will allow it. Go ahead.

A. Yes, the master is responsible to his crew for their safety and to his company for the safety of the vessel and its cargo, or, in the case of this particular situation, to the crew and to the company's vessel, the company who owned the tugboat and the scow. They are his responsibilities, that is what he accepts when he takes the job.

Mr. Byrne: I move to strike the answer.

The Court: I will note your motion and dispose of it at a later time.

By Mr. Freedman:

Q. Would you say bearing that in mind that he exercised good seamanship under the circumstances?

A. It is not seamanship, Mr. Freedman, it is——

Mr. Byrne: Tradition; the witness said it was tradition.

A. I don't know what you would call it.

The Court: That is what he said.

The Witness: Whatever it was it wasn't good.

Mr. Byrne: It wasn't tradition.

Mr. Freedman: Well, his answer stands. It is a whole lot more than tradition. It may have had its roots in tradition, Mr. Byrne.

Mr. Byrne: Are you testifying now, Mr. Freedman?

Mr. Freedman: I am quoting the law.

By the Court:

Q. But have you considered in your answers, Mr. Woollers, the extraordinary nature of this accident? Here is a case not where a fire starts and slowly makes its way along from one part of the ship to another, but here is a ship that is going along in perfectly clear water and weather, and all of a sudden it is right in the middle of a mass of [fol. 193] flames. Can you exact quite the same amount of high standard of tradition and seamanship and all that of a man under those conditions? I don't know, it seems to me—

A. I think a properly trained person, sir, will automatically act. That has been proven in a great many fires of similar nature.

Mr. Byrne: That is objected to.

The Court: Oh, it is all right. It doesn't mean much.

Of course; I realize it. Yet I don't feel you can exact quite the same high standard of prudence and care and foresight in a situation like that.

I am just rambling: But it does seem to me that there is something quite distinct about an accident of this kind. It certainly is very rare to just suddenly find yourself enveloped in flames that rise so high that you can't see the top of them, that make a solid wall all around the ship.

Well, that is all right. It is just a discussion, it is something I will have to work out later on.

By Mr. Freedman:

Q. Captain, taking all of these things into consideration are you able to state an opinion regarding the competency of the captain under the circumstances?

Mr. Byrne: Objected to. It isn't a question of competence. He doesn't have to be a hero.

The Court: I will take it subject to the objection.

A. I don't like to comment on the competency of another man, but on the information that we have up to now it

seems to me that Captain Taylor had a great deal to learn about his job.

CROSS

By Mr. Byrne:

Q. Did the officers and crew of the vessels upon which you served smoke at any place on the ship?

A. Yes, sir.

Q. In their quarters?

A. In their quarters.

Q. In other words, in any space other than on deck, is that right; in the engineroom space, in the quarters, on the bridge?

A. No, I couldn't answer you any questions about what goes on in the engineroom because I don't know.

Q. All right, strike the engineroom. But in quarters, or the navigating bridge, in the chart room, the radio shack, the mess hall and any recreation rooms, smoking on those tankers, went on, is that correct?

[fol. 194] A. Under normal circumstances you can usually smoke on a tanker at sea in the spaces that you mentioned and also on the fantail.

When you are loading a tanker you don't smoke outside, and if you do any smoking inside you make very well sure that any doors that may lead to the areas——

By Mr. Byrne:

Q. Which areas?

A. Well, I am talking about the deck area where the normal fumes would come up on the ship. In a case like that you stay away from that.

On a T-2 back in the saloon or in the men's recreation hall or their mess hall you could smoke because you are far enough away from the deck that it would be safe to do so.

Q. What is that distance, 30 or 40 feet?

A. Oh, I would say it is almost the length of this courtroom.

Q. And you may smoke there, in your experience, during loading and unloading of the vessel?

A. That is correct, inside.

Q. Inside. It doesn't matter whether the portholes are open—well, actually—strike the question.

• In the summer the portholes are open and in winter they are closed, is that right?

A. That is correct.

Q. Now, that is because the fumes dilute, isn't it, Mr. Wooters, over the distance from where you are to the back of the courtroom, or almost that distance? Isn't that true?

A. I guess it is.

Q. Now, you, however, in answer to one of Mr. Freedman's questions, said that it was not safe for the tug "Arthur Herron" to be in the Delaware River above the Penrose Ferry Bridge—

A. That is going to be hard to do.

Q. I beg your pardon?

A. The Delaware River above the Penrose Ferry Bridge?

Q. I am sorry, strike it out.

In answer to a question from Mr. Freedman you said that in view of the fact that two Gulf tankers down at the spillways below the Penrose Ferry Bridge in the Schuylkill River had red lights, that it was not in your opinion safe or proper to have an open lantern in a scow in the Schuylkill River above the Penrose Ferry Bridge, did you not?

A. I don't know whether I said that or not.

Q. Well, if you said that—

A. I don't remember making any comments above or below.

Q. The question wasn't put to you quite that way, Mr. Wooters. You said, I believe, and I am summarizing your testimony very briefly, that for this scow and tug to be [fol. 195] in the Schuylkill River at the point where this fire occurred was improper because of the fact that down at Spillway 2 or in that area there were tankers with a red light, which you described as showing all around the horizon. Now, you did so testify, or didn't you?

A. Yes.

Q. Do you wish to amend your prior testimony?

A. No, I don't want to amend it. I don't think it is safe

practice to ever go down the river on a scow with an open light low down.

Q. Why then is it safe and proper practice to light a cigarette in, let's say in the officer's mess of a T-2 tanker, as you have described, while loading operations are going on and the distance is less than the distance of this courtroom?

A. Because you have an entirely different situation. You are completely separated from those gases back there.

Q. How?

A. You can never smell gas in the mess hall in any quantity.

Q. Because you can't smell it?

A. But you go out on deck and you get it when you are loading. Some of the crude oils give out a terrific amount of gaseous vapor.

Q. Gaseous vapor or odor?

A. Odor and vapor.

Q. What do you know about vapors of petroleum products?

A. I know that when you stick your head in that ullage hole to take a gauge on it they stink, and they usually blow—get in your face and make—if you are loading certain things it will make you sick.

Q. That is an odor, isn't it?

A. That is an odor.

Q. But you don't know anything about the vapor-rising quantities?

A. Oh, no, it is a vapor coming up. You stand off to one side and you can see it.

Q. All right. But you say it is different when you light a cigarette in the officers' mess during loading and unloading operations than being out in the middle of the river?

A. I think so.

Q. Why?

A. Well, when you go past a refinery you get the odor of the products that refinery makes. When you load or you discharge you have escaping gases. Those gases are heavier than air. They settle down. There is nothing you can do about them. They are going to escape as the cargo comes up in the tank, the gas is going to come out, see?

That gas is heavier than air, it settles. In this particular case it will settle on the river.

Q. Oh, that has been your—

[fol. 196] A. (Continuing) And she goes floating down the river and you come into it with an open flame and you have got trouble.

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By Mr. Byrne: Now, to the nearest point on the Penrose Ferry Bridge, and not following the bends of the river but measuring across country, to Spillway No. 2, if I can read this, is $11\frac{3}{4}$ inches, and from a point opposite what is called the captive barge on this map to the same point is $5\frac{3}{8}$ inches. The scale of this map, Mr. Wooters, is one inch equals two hundred feet. Do you have those figures?

A. No, I didn't mark them down.

Q. That would be $17\frac{1}{8}$ inches?

A. Total?

Q. Total. That would give you a little over 3400 feet, would it not, sir?

A. Yes, sir.

Q. Is it your testimony, Mr. Wooters, that the red light on the tanker 3400 feet away is intended to be a warning to a barge in the middle of the river against the use of open flame?

A. Yes, sir.

Q. It is?

A. Yes, sir.

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Q. Now, in answering a question of Mr. Freedman's you said that with respect to the light on the scow being 3 feet above the water it would bring the flame right into any concentration of gas; is that what you said?

A. Yes, sir.

Q. In your experience have you ever known of a fire to start in a way that this one started?

A. I have never seen a fire start that way but I have read about them right here in this river. Every once in a while in the newspaper you see an article about a fire, a flash fire that has taken place on the river.

.

Q. Now, Mr. Wooters, you also testified with respect to the fact that Captain Taylor, or Mr. Taylor—he is not a licensed officer—

A. He was the captain of that ship so he is a captain.

Q. He is not required to be licensed, is he, sir?

A. If he is in command of the ship he is its captain, he is the master. If it is only a canoe he is still the master.

Q. Well, he is not required to be licensed; you know that, isn't that true?

A. Yes, sir.

[fol. 197] Q. And you would impose the same standard upon a man in command of 6-foot rowboat that you would impose on a man in command of a 10,000-ton tanker; he would still be the captain, is that what you say?

A. That's correct.

Q. And that is the standard by which you have judged Mr. Taylor in your testimony today?

A. I don't think there is any degree of responsibility where human life is concerned.

Q. Now, you said that in a danger area the master should always be in a position of command. I think that was your phrase, was it not?

A. Yes, sir.

Q. In other words, you went on, in the tug in this case that would mean being in the wheelhouse?

A. Yes, sir.

Q. Now, where in your definition did the "Arthur Heron" enter an area of danger?

A. I don't know.

Q. Would it be 3400 feet away from a tanker with a red light on it? Would you consider that an area of danger in which the master should—

A. It could very well be.

Q. Well, now, it could be of course if you dropped dynamite.

A. The tide would carry that vapor. The wind could carry that vapor.

Q. I wasn't talking of vapor, sir, I was talking about an area of danger.

A. That would make it a danger area.

Q. But that is the only reason you say that Taylor should

not have left the wheelhouse, the fact that the tide—or what else could carry it?

A. The current, wind.

Q. All right. —could carry inflammable vapors 3400 feet, is that correct?

A. I think so.

Q. And start a fire?

A. I believe it could.

Q. Is that the only reason you have called that point 3400 feet away from the danger red light an area of danger?

A. I think that whole Schuylkill River area from the South Street Bridge down to Girard Point, when a man is going down that river with an open light on his scow, he should stay in a position of command until he is out of that area.

Q. Solely for the reason that the surface of the river might break into flames?

A. That is solely for the purpose of protecting his vessel in case something happened.

Q. In case what happened?

A. Anything, any danger. That is his job.

[fol. 198] Q. What danger do you envision in the Schuylkill River from the South Street Bridge to the Delaware which you would not envision in the Delaware River opposite Marcus Hook?

A. Well, in the first place it is crowded waters, you don't have too much room to maneuver.

Q. All right.

A. In the second place we have two refineries spilling inflammable gas out in the river.

Q. Have you assumed that the two refineries spilled inflammable gas out in the river?

A. I am certainly assuming it.

Q. I see.

A. The fact is I figure it is a known fact. Where are you going to get rid of the gas? You don't burn it all up when it goes out that stack.

[fol. 199] By Mr. Byrne:

Q. Mr. Wooters, yesterday you said in answer to a question by Mr. Freedman that it was an exhibition of very poor seamanship for a captain—for Taylor, immediately after the fire, when the fire broke out, to go from the galley to the engineroom and fail to give any orders during that—for a period of about a minute during which he went from the galley to the engineroom.

Do you recall testifying as to that?

A. Yes, sir.

By Mr. Byrne:

Q. Until Taylor met a member of the crew, it was impossible for him to give orders, wasn't it?

The Witness: That boat is so small they could holler.

By Mr. Byrne:

Q. I see. You think he should have hollered?

A. I think he could have hollered.

Q. The walkway along the side is very narrow, isn't it?

A. Yes.

Q. And you have heard the testimony that the flame was so high that you couldn't see the top of it?

A. Yes, I have heard that testimony.

Q. So that it would be physically impossible, or humanly impossible, let me put it that way, to have traveled any distance along that narrow walkway, would it not, with the flames?

A. He walked back to the engineroom.

By Mr. Byrne:

Q. Not on Mr. Taylor's testimony. Mr. Taylor testified that he was standing immediately outside the door of the engineroom.

The Witness: Outside of the galley drinking a cup of coffee.

By Mr. Byrne:

Q. That is what you have assumed?

A. That is what I thought, that he was outside the galley and he walked back to the engineroom.

Q. And if Mr. Taylor testified or testifies that he was standing immediately outside the door of the engineroom talking to Mr. Whitey Milan, who was up at the con-[fol 200] trol panel immediately inside, the conclusion which you drew is not correct; is that right?

A. No, sir.

The Court: You mean that is not correct?

The Witness: That is not correct.

Q. What is correct?

A. Your automatic command should be get those fire extinguishers and that fire pump going first and full speed ahead to get out of it or try to get out of it. At least, throw the flames away from your boat and not to envelop your boat in flames.

Q. Let's take your answer one thing at a time and let me record what you say. I will have the reporter read it back to me.

(The last answer was read back by the reporter.)

By Mr. Byrne:

Q. The first thing you said should be to get the fire extinguishers. That is the small CO² cylinder; is that correct?

A. Well, you have a fire pump.

Q. Well, we are sticking to your first part. You said first to get the fire extinguishers.

A. Maybe I should have said the fire equipment.

Q. Please let's take it up as I ask the questions. We will get to the fire pump.

A. All right.

Q. You said in your answer the first command should have been to get those fire extinguishers.

The Court: He has amended that now by saying he should have said get the fire equipment.

Mr. Byrne: All right.

The Court: That is what he meant.

The Witness: That is what I meant.

The Court: Don't examine him on what he didn't mean.

By Mr. Byrne:

Q. Do you wish to change your answer?

The Court: He said so.

Mr. Byrne: I want to get precisely what he said.

The Court: And I gave it to you.

Mr. Byrne: All right.

Q. You want to say then get the fire equipment going, and you include the fire pump and the fire extinguisher?

A. Oh, yes, the hose, the fire hose, the fire pump would have normally pumped the water into the fire hose, and the fire hose could have been directed at the fire, and you could have attempted to contain it.

[fol. 201] Q. I see. Is there anything else now?

A. I don't think they had anything else.

Q. All right. Now the first thing should have been to get the fire hose going on the flames by starting the fire pump, putting the hose on it; is that correct? That is what you just said.

A. That's right.

Q. Where was the fire hose in this case?

A. Well, I understand the fire hose was on the deck.

Q. That would be in that one-yard space between the wall of flame and the side of the house; is that correct?

A. That's right.

Q. And you think that it would have been a proper order under those circumstances to direct men to go out into that one-yard wide unprotected place to get the fire hose to try to put out a fire that extended over the whole surface of the river; is that right?

A. Captain Taylor was standing on the fire hose. He could have taken it himself.

Q. Please, Mr. Wooters, will you answer my question?

A. I don't think it is an unreasonable order to order men out to protect the property they are working on.

Q. All right.

A. Heat or no heat.

Q. I see. That is the order you would have given and that you think any reasonably prudent man would have given under the circumstances; is that your—

Mr. Freedman: By man, do you mean master?

Mr. Byrne: Yes.

A. Let's just take something here for a minute.

By Mr. Byrne:

Q. Please answer the questions.

Is that the order you think any reasonably prudent person in command of a tugboat would have given under those circumstances?

A. If that vessel had continued—

Q. Now,—

The Court: He is trying to answer you.

Every time he opens his mouth you stop him.

Mr. Byrne: He is giving an unresponsive answer.

The Court: You don't know what he is going to give.

A. (Continuing) If that vessel had continued at full speed ahead, they wouldn't have needed the fire equipment.

Mr. Byrne: Will you strike the answer, sir?

The Court: No, I won't strike it.

[fol. 202]

By Mr. Byrne:

Q. Mr. Wooters, will you please answer my question that I asked you? Miss Maschka will read it to you.

The Court: It is not in answer to the question, but it is perfectly competent.

(The last question was read by the reporter.)

By Mr. Byrne:

Q. The order being to go out on that one-yard space and put the fire hose on this fire?

A. Automatically you attempt to put out a fire, yes.

Q. That would have been the only proper order, in your opinion?

A. That and full speed ahead.

Q. I see. All right.

But that would have been all——

The Court: And the fire extinguishers.

Mr. Byrne: I am getting into that, sir.

By Mr. Byrne:

Q. Now, under the circumstances that existed here, is there any reasonable room for doubt that judgment as to whether the fire hose played on the surface of a burning river would have been the proper and reasonable order under the circumstances?

A. I didn't say anything about playing it on the water, the river.

Q. Where——

A. I didn't mention any place to play those hose.

Q. Where would be the only proper place to have the men play it?

A. I would douse that wheelhouse. It was wooden. There was a man in it.

Q. And the flames are how close to the men holding the fire hose?

A. You are going ahead all of this time.

Q. How close are the flames——

Mr. Freedman: Just a minute.

By Mr. Byrne:

Q. (Continuing) —to the men holding the fire hose?

Mr. Freedman: If the Court please, I think the witness ought to be able to answer in his own way.

The Court: No, I think that the question is all right. Of course, we all know the answer.

Mr. Byrne: All right.

By Mr. Byrne:

Q. How long would a properly trained crew have taken to have gotten the fire pump going and gotten the fire hose? Do you know where the nozzle of the hose was, by the way?

A. No.

[fol. 203] A. No.

Q. That would make a difference—

A. It would.

Q. —in your answer?

A. It would.

Q. Would your answer be the same if it would have required going up to the bow, up near the bow of the vessel on the port side, to have gotten the nozzle of that fire hose and to have turned it on, of course, would have required you to be near or at the starboard door of the engine room?

A. Why would you have to go up to the bow to get the hose? You could pull it back. It is a light 50-foot hose.

Q. I see. How long would that take?

A. How long would it take you to pull something back a matter of 25 or 30 feet? A couple of seconds. To put it on that wheelhouse, all you have to do is get on that bit at the after end of the ship and push it over the top of the deckhouse itself. You are not a yard or a foot from the flame then. You have got the width of the tug on either side of you.

Q. But you can't see where the water is going, can you?

A. You can see it enough on a boat that small. You can watch that water and play it on the wheelhouse, and you could have seen it in spite of the fact that the boat was in the way.

Q. Anything else in the way?

Mr. Freedman: When you say boat, you mean—

Witness: Lifeboat.

By Mr. Byrne:

Q. Now, would you have used the carbon tetrachloride and CO² fire extinguishers which were on the tug?

A. Well, I frankly don't think that the carbon tet would have done much good, for the simple reason if you used it

on the outside the vapors with which it puts out fires would probably have been diffused. As far as the CO², I don't think there is enough of it there to do much good.

Q. Now, the photograph on Exhibit P-19d shows the wreckage of the wheelhouse, and at least enables us to see where it is; isn't that true, Mr. Wooters?

A. Yes.

Q. And the stern of the vessel is shown on C-6, is it not?

A. Yes, sir.

Q. And it is your testimony that the only proper thing, that the only reasonably prudent command under the circumstances would have been to order the men to go forward or to in some way get the hose by pulling it back, to go stand on the deck aft; is that correct?

A. That is what I said before.

Q. And play the stream of water from that hose up over the superstructure, over the lifeboat and on to the pilot house, which is immediately forward of the stack?

[fol. 204] A. I would like to change that.

Q. What would you like to change?

A. I would like to say this: Under these circumstances there, with this condition, you could take that hose over in the barge and play it on the wheelhouse, and nobody would have gotten hot.

Q. But it is a fact, is it not, Mr. Wooters, that to have played the hose on the wheelhouse on the point which you first suggested would have been a physical impossibility.

A. The way I said it originally.

Q. Yes.

A. It would have been, yes.

Q. That's right.

A. But seeing that, and had I been there—and I am sure that with a little bit of thought, you could have taken that hose on to the barge and played that water on to the wheelhouse without anybody even getting even warm. Well, I will take that back. You would have probably gotten warm, but—

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By Mr. Byrne:

Q. Mr. Wooters, you said that in your opinion Taylor should have kept the tug going ahead, is that correct?

A. Yes.

Q. You don't know what the speed of the tug was, do you?

A. No, sir.

Q. You don't know of what speed the tug was capable with the barge alongside, do you?

A. No, sir.

Q. If it was a slow tug would that change your conclusion?

A. I don't believe so, Mr. Byrne; You still push the water away from the ship. The shape of your bow would do it.

Q. Even when it is moving very slowly?

A. Yes, sir.

Q. How slow would it have to be to have any material effect by pushing fire away? How fast would it have to be? I am sorry.

A. I don't think that has anything to do with it. It is simply a matter of the forward motion of a hull; the shape of the tugboat, is going to push the water away from the boat.

Q. Well, if it is moving slowly it will not——

A. It will not push it as rapidly, but it will push it.

Q. I see. And even if the tug was making only four or five miles an hour you think that that would have changed the end result in this case.

A. No. It might have been a little slower, but that is all. But it would still have pushed——

Q. No, by the end result I mean the burning of the tug.

Mr. Freedman: Had you finished your answer, Mr. Wooters?

[fol. 205] A. No, no, I don't mean that at all.

Q. You think it would have changed the end result?

A. I definitely think so. I don't think anybody would have been hurt and I doubt very much if the vessel would have caught on fire.

Q. How much flame did the tug have to go through, do you know that?

A. I don't know.

Q. And your answer would not be changed by whether it was twenty feet from the far end of the fire or 250 feet, is that right?

A. I still say if that tug was moving forward you could push the flames away from it.

Q. I see.

A. And you would continue to do so as long as you were going forward.

Q. And it would not matter how long you were going to be in the flame, nor the speed at which the tug was moving; your answer is still the same?

A. As far as pushing the flames away, yes.

Q. And as far as the effect that it would have had; you said that in your opinion the tug would not have been damaged and the men would not have been killed?

A. I believe that that is right. If they had continued I am sure that they would not have been killed and the boat would not have been burned.

Q. Even if I tell you that the sheet of flame covered the water down to the Penrose Ferry Bridge, would that change your conclusion?

A. They were below the Penrose Ferry Bridge, weren't they?

Mr. Freedman: How high was the flame, Mr. Byrne, down to the Penrose Ferry Bridge?

Mr. Byrne: Do you want to object to my question, Mr. Freedman?

Mr. Freedman: Well, I object to the question unless he makes it more specific.

Mr. Byrne: All right, let the Court rule.

Mr. Freedman: Unless he makes it more specific. I have no objection to the question as such, unless he makes the question more specific and tells how high the flame was down at the Penrose Ferry Bridge.

Mr. Byrne: If the Court please, I don't understand that. He has no objection to the question as such.

The Court: I will allow the question as asked.

The Penrose Ferry Bridge, though, was up, wasn't it? The tug was going away from the Penrose Ferry Bridge, wasn't it?

Mr. Byrne: No.

* * * * *

By Mr. Byrne:

Q. You may assume, Mr. Wooters, that the tug was proceeding downstream and had not yet reached the Penrose Ferry Bridge.

[fol. 206] The Court: That (indicating) shows the new bridge. This (indicating) shows the bridge as it was.

Mr. Byrne: Am I correct, Mr. Freedman, in my statement?

Mr. Freedman: That what?

Mr. Byrne: That the tug was proceeding downstream but had not yet reached the Penrose Ferry Bridge.

Mr. Freedman: I think that is correct.

The Court: Yes, that is right. It is all right, sure.

Mr. Byrne: Now, will you read Mr. Wooters my question, Mr. Harris?

(The question was read by the reporter as follows:

"Q. Even if I tell you that the sheet of flame covered the water down to the Penrose Ferry Bridge, would that change your conclusion?

"A. They were below the Penrose Ferry Bridge, weren't they?")

The Court: No, they were above it and proceeding down toward it.

A. No, I still would say the same thing.

By Mr. Byrne:

Q. Whether it was 200 feet to the lower end of the flame or 800 feet, is that right?

A. You keep going.

Q. Does that conclusion apply, Mr. Wooters, if you have a patch of flame which we will say is represented by this yellow sheet which I am laying on the counsel table, and

the tug and tow are proceeding downstream in that direction (indicating) and to the men on the tug it appeared that the fire was less severe astern of them than ahead of them?

Do you understand my question?

A. Yes.

Q. Will you answer it?

A. Well, I said yes. Now you say the men on the vessel——

Q. To the men on the vessel——

A. —believe that there is less flame behind them than there is ahead of them?

Q. Yes, sir.

A. They are completely enveloped in flames?

Q. It appeared, I think the testimony is or will be, less severe astern of them than ahead of them.

A. Look, Mr. Byrne, when those propellers go around in reverse you pull the water right up alongside of your ship and the flame that is on that water just lays right on that ship.

Q. That is at the stern of the ship, isn't it?

A. Yes, when you are reversing. Now, when you are going forward with the tug bow you are pushing it away from you.

Q. We will come to that.

[fol. 207] Mr. Byrne: Will you read Mr. Wooters my question?

(The question was read by the reporter as follows: "Q. Does that conclusion apply, Mr. Wooters, if you have a patch of flame which we will say is represented by this yellow sheet which I am laying on the counsel table, and the tug and the tow are proceeding downstream in that direction (indicating) and to the men on the tug it appeared that the fire was less severe astern of than ahead of them?")

By Mr. Byrne:

Q. And your answer to that is yes?

A. Yes.

Q. Does the same conclusion apply, Mr. Wooters, if the tug is in fact near the upstream edge of the patch of fire;

in other words, in the direction in which it is proceeding it has just actually entered the flaming area? Does your conclusion still apply?

A. How are you going to get away from it? You can't back up and pull it alongside of you. That is the way I feel. You cannot pull those flames in alongside of you.

Q. Please answer my question whether you still hold the same opinion.

A. I hold the same opinion because obviously in this particular case that flame couldn't have been too big, not that much room.

Q. You don't know, of course, how large the flaming area was?

A. No, but I still say you would go ahead.

Q. Mr. Wothers, it is a fact, as you pointed out, that when you put the propellers of a vessel astern you draw in under the vessel the water which is astern of you, is that not correct?

A. Your stream is in the motion that follows the skin of the ship (indicating).

Q. My statement is correct, isn't it?

A. Yes, essentially.

Q. Now, you do not draw the surface water, you draw the water at the level of the propellers, isn't that correct?

A. Oh, now, wait. That water that you draw in the propeller has got to be fed by the surface water, which eventually starts to move forward.

Q. Eventually starts to move forward, that is true.

Now, this is also true; the converse of that statement is correct, is it not, that when you are going ahead you are drawing into the propellers water from under your tug and ahead of your tug, are you not?

A. Yes, but the shape of the bow is what is doing the thing. It is pushing this flame away from you, the wash of the water.

Q. But the water being drawn under the surface from forward back to the propeller has a tendency to pull that water and again pulls water toward the ship which may be counteracted by the cleaving action of the bow?

[fol. 208] A. We don't care what is in back of us, Mr. Byrne. We are trying to get away from the fire.

Q. Now, do you know what type of steering mechanism was on this ship?

A. I beg your pardon?

Q. Do you know what type of steering mechanism there was on this tug?

A. No, sir.

Q. Did you in your answer assume that it was a manual or a power steering device?

A. Well, I didn't give it any thought, to be perfectly frank about it.

Q. Don't you think you should, Mr. Wooters?

A. I beg your pardon?

Q. Don't you think you should?

A. I don't see where that has anything to do with it.

Q. If it was a power steering operated by electricity and the electric current failed, what would happen?

A. Well, you immediately push her back to hand steering by pushing a lever, turning a lever or pressing a button, depending on the type of equipment you are using.

Q. Your answer assumes that the man at the helm was still there conscious, had his full faculties, does it not?

A. Yes.

Q. If the man there had been overcome by smoke it would have been folly to go ahead, would it not?

A. I don't think that that ship would have gone off its course to very much, and even if it had it would still have been going forward and still would have been pushing the water away from the ship by going forward.

Q. The testimony in this case, Mr. Wooters, is that the Diesel engine operating the generator choked out apparently because of lack of oxygen to draw from in the engine room. If that had happened to the main engine after you had driven ahead and you found yourself deeper in the flame it is a fact, is it not, that this tug would have been in a worse predicament than it was originally?

A. Under that supposition you are right, yes.

Q. It is a fact, is it not, that a tug towing a scow alongside, that the scow has a tendency to swing the tug?

A. That's right.

Q. And in that situation the swinging action of the scow on the port side of the "Arthur Herron" would have swung it toward the Gulf Refinery, is that not correct?

A. Yes.

Q. And if there was no helmsman there or no reasonable way of getting a man to the helm there might have been an even greater catastrophe than there was?

[fol. 209] A. No, the turning radius wouldn't have been that short, Mr. Byrne.

Q. How short would it have been?

A. I beg your pardon?

Q. What would have been the turning radius?

A. Well, I don't believe that from all the information that I have gotten in this case it would have been anything suggesting within the limits of this pool of fire. I think perhaps we might say on the tug with a scow that a turning radius of, oh, assuming that your wheel is just laying there and you were just turning, I would say perhaps 3000 feet for the diameter of your circle. That would be a 1500 foot radius, and I think even if you had nobody on the wheel. I believe that you would have cleared the flame.

Q. But would you have perhaps come into one of the tankers with the red lights on that were down on the spillway, or might you have bumped into one of the appliances that Gulf called the Aviation Gasoline Loading Racks?

A. I have an idea that the minute anybody in the Gulf Refining saw any fire coming toward them, that fire extinguishing outfit in the Gulf Refining was on the job right then and there, first.

Q. Will you answer my question?

A. No, I don't think it would have done a bit of harm, because I think they would have been ready for it.

Q. I didn't ask you if it would have done any harm. I asked you if it might not have come up against one of the—

A. No, I think they would have been out of there with their tug to get it out of there before it got to them.

Q. You don't think it would have touched—

A. No.

Q. And the reason you don't think it would have touched any part of the Gulf plant was that Gulf would have gotten a tug underway up to this flaming tug?

A. No. I said that Gulf would have their fire-fighting equipment ready.

Q. You know where Gulf's fire equipment is kept?

A. I will bet it is all over that dock.

Q. Do you know?

A. I know it is on the dock.

Q. I see.

Now, yesterday, you testified that the proper thing for Taylor to have done would have been to make some effort to put the fire out immediately, not to wait, to start immediately. Do you recall saying that?

A. Yes, sir.

Q. Now, this patch of flaming oil, or whatever it was, how would you have proceeded to put it out?

A. I made no effort in my testimony to put the fire out on the river. I was trying to protect the wheelhouse and the man in the wheelhouse.

Q. Would you have launched a lifeboat under the circumstances?

A. I would have tried.

[fol. 210] Q. Into the flame?

A. Well, I think that by the time you are ready for that lifeboat, you would have been out of the flames.

Q. Well, what—

A. The point is to get the lifeboat ready in case you can use it.

Q. What reasonable way of knowing would a man in the situation of Taylor have as to how long that fire would last?

A. I don't know.

Q. Have you ever been on a vessel that has sailed through an extensive fire on the water?

A. Well, I was in a tanker that was involved in a torpedoing. We had flames around us, but we continued going while the stuff came out, the oil—gasoline in this case—but we didn't stop. We kept on going.

Q. Of course, you were—

A. Until we could get clear of it.

Q. Yes, but of course you weren't sailing into a field of flames. You were trailing a field of flames; is that correct?

A. Only in the respect that the inflammable material was coming out of the forward end of the ship.

Q. I know, but you couldn't—

A. We didn't go into a pool of flame, no, sir.

The Court: Would you hold it up for just one minute. I want to look at something here.

Mr. Byrne: Surely.

By Mr. Byrne:

Q. Mr. Wooters, I am going to show you two exhibits, P-7 and C-16.

Mr. Wooters, as the tug proceeded ahead, would not the bow of the barge, which was ahead of the bow of the tug—and of course there is a space between the two—

Mr. Freedman: Wait a minute.

By Mr. Byrne:

Q. (Continuing) —a funnel shaped space—you can see it on the photograph. It is almost a conical, triangular-shaped space between the bow of the tug and the side of the barge, is there not?

Mr. Freedman: Just a minute. Did you say that the bow of the tug was ahead of the bow of the barge?

Mr. Byrne: I didn't mean to. I said the bow of the barge was ahead of the tug.

Mr. Freedman: Well, let me have the question read back.

Mr. Byrne: Consider it so amended.

Mr. Freedman: I would like to hear it.

(The last question was read by the reporter.)

Mr. Freedman: I have no objection.

By Mr. Byrne:

Q. Do you have the question in mind?

A. Yes.

[fol. 211] Q. Wouldn't it be a tendency to catch the flaming material from the river in that ship—in that, shall I say, triangular space between the side of the barge and the bow of the tug?

A. It could be.

Q. Well, in the normal course of events, it would be, isn't that so?

A. Well, now, let me say this. I don't know exactly how that barge was put alongside that tug.

Q. Oh, you are assuming——

A. If that barge is perfectly straight——

Mr. Freedman: I think the witness should be permitted to finish his answer.

Mr. Byrne: Yes.

A. (Continuing) If that barge is perfectly straight and you have a—well, let's say you have your rubber bumpers alongside of it, then you have got a considerable portion. If that bow—if that scow is placed along the bow of that ship, so that it slightly fits into the skin of the ship, as is frequently done, in other words, not directly alongside of the boat, but geared or rigged along to the bow, then you are going to have a different stream of flow.

By Mr. Byrne:

Q. Well, please assume that the photographs that you show in your hand reflect the best evidence that we are now able to produce as to the manner in which the barge was tied to the tug.

A. This vessel is at rest. How can you assume what happened when it was moving?

Q. Doesn't it give you some general idea——

A. No.

Q. —as to the——

A. No.

Q. You refuse to assume that these photographs——

A. That line could be burned and loosened up at the barge just following the side of the boat.

Q. You refuse to assume that the relative positions as shown on C-16, the relative position of the barge alongside the tug—well, let me put it to you this way.

Can you assume, or if you will assume—this may be a complete fabrication, a product of my imagination, but assume it anyway—that this C-16 accurately, or within reasonable—reasonably accurately portrays the relationship of the side of the barge to the side of the tug.

Now, if that is so, wouldn't that have so funneled, so to speak, the flaming surface?

A. If these vessels, this barge and this towboat or this scow and this towboat, were in this position, then we can come to the assumption that a certain portion of that water would funnel in between them.

Q. Of course, the flaming material would be carried in there, too?

A. That's right.

[fol. 212] Q. And you would still go ahead?

A. Sir?

Q. You think the only reasonably proper order under the circumstances was to continue ahead?

A. Yes, sir.

Q. All right.

Now, Mr. Wooters, yesterday Judge Kirkpatrick asked you a question, and your answer to it was this——

Mr. Freedman: May we have the question first, sir?

Mr. Byrne: Yes.

The Court: It is all right. He is going ahead all right.

By Mr. Byrne:

Q. Your answer to it was this:

I think, a properly trained person, sir, will automatically act.

That is the first sentence of your answer. And the second sentence was:

That has been proved in a great many fires of a similar nature. Now, let's stick to the first sentence in which you say a properly trained person will automatically act. Do you remember saying that?

A. (Witness nodding affirmatively.)

Q. Now, in your opinion, have you based your testimony upon the premise that when confronted with a sudden, terrifying emergency in which a man's life is in peril, that training is the overpowering control?

A. Yes, sir.

Q. That is a question for a psychiatrist, isn't it?

Mr. Freedman: If the Court please——

By Mr. Byrne:

Q. Or a psychologist?

A. Oh, I don't think so, Mr. Byrne. I think that experience proves it.

Q. In other words, if you train a man, you can make a brave man; is that right?

A. I beg your pardon?

Q. If you train a man, you can make a brave man?

A. Oh, no. I didn't say that, but I say that a man will act naturally in accordance with his training in time of an emergency, if the emergency has been pointed toward that training.

Q. I see.

A. Or the training has been pointed toward that emergency.

Q. The training that a man receives is to—is it to meet a fire of the nature of this one, or is it to meet a fire that you might expect to start somewhere on a ship, let's say in the engine room, and perhaps it isn't properly fought and it spreads from there?

[fol. 213] A. I think that when you are training for an emergency, you are training for any emergency.

Q. Well, how do you train for any emergency?

A. Fire and boat drills in this—

Q. Fire and boat drills?

A. Yes, sir.

Q. That is your answer?

A. That is my answer.

Q. It tells you how to meet this sudden inferno?

A. You understand what a fire and boat drill involves?

Q. I understand that.

A. You are not only using the equipment, but you are being taught the various other emergency devices which go to save or protect lives.

The Court: I really don't see what the purpose of this questioning is. Doesn't everybody know that training is an advantage in any emergency?

Mr. Byrne: Oh, no.

The Court: Isn't it perfectly obvious?

Mr. Byrne: I don't think so. Training—

The Court: I could never reach any other conclusion, Mr. Byrne, I will say that. In any maritime emergency—any emergency anywhere, there certainly is an advantage to have been trained to meet such an emergency, but there is no use in talking about the question. We are just wasting time.

DAVIDLEE VON LUDWIG, having been duly sworn, was examined and testified as follows:

Direct examination.

By Mr. Freedman:

Q. Will you state your full name, please, Mr. Von Ludwig?

A. Davidlee Von Ludwig.

Q. How old are you, Mr. Von Ludwig?

A. Thirty-nine.

Q. What is your occupation?

A. I am a consulting materials engineer.

Q. Will you state your background, please, your schooling, your education?

A. I have a bachelor of science degree; I have done—

Q. From where?

A. I beg your pardon?

Q. From where?

A. Long Island University. I have done some graduate work at Columbia, taken various courses at Brooklyn College.

[fol. 214] Mr. Byrne: Keep your voice up, sir, I have difficulty hearing you.

A. I have been engaged in research work, private research work, since undergraduate time in college on matters pertaining to carburation, on the development of various explosive materials, on the development of carburation devices, internal combustion engines, turbine engine designs.

I have written over one hundred technical articles on

various fields of engineering, materials handling, various fields of gas chemistry; one engineering book.

I have had occasion to give a number of lectures before the American Gas Association on matters involving gas and oil fuels, the American Society—

Mr. Byrne: Excuse me, Mr. Von Ludwig. Did I understand you correctly to say you have given lectures before the American Gas and Oil Association?

The Witness: No, I say I have had occasion to give before Conventions of the American Gas Association—

Mr. Byrne: On gases?

The Witness: —lectures dealing with gas and oil fuel problems.

Mr. Byrne: Gas and oil fuel problems.

A. (Continuing) I also lectured before a number of other engineer's societies on other matters not necessarily dealing with this subject.

I have been consultant for a number of foreign firms and governments on problems relating to gases, gas fuels and the utilization of gas in industry. I have been consultant to the Munitions Board and to the Air Force on matters relating to the production of oil from bituminous shale—no, from oil containing shale, not bituminous shale.

I have designed various safety devices intended to prevent or minimize the hazard of fire in the handling of combustibles. Particularly I have designed a method of scavenging the fumes from tankers, T-2 and other types of tank ships, to prevent the fumes from being vented into the air, and also to salvage them for what value they have.

I have been self-employed as a consultant with the exception of one year 1944 and '45, since 1952 to the present.

My first job, in 1939, after getting out of college, was as a test engineer for Wright Aeronautical in the Engine Design and Carburation Test Section, for one year. I worked as chief materials inspector for the Sperry Gyroscope Company for about fifteen months following that, and then went into business in 1942 for myself. I was consultant for the War Production Board from December of 1941 to August of 1942, on various material and metallurgical problems, also dealing with incendiary and explosive problems.

In 1944 and '45 I was chief materials engineer for the Indianapolis Division of the Norton Bomb Sight Company.

Mr. Byrne: Chief materials engineer, sir?

The Witness: Yes. And subsequent to that time I have been self-employed.

By Mr. Freedman:

Q. Have you had any special training in fire prevention and fire control?

[fol. 215] A. Well, not so much training as part of my work. Part of the purpose that I do, part of the job that I have had at various plants both as an employee and as a consultant has been the elimination of fire hazards in the handling of gases, explosive salts, explosive compounds and combustible materials such as magnesium and so forth.

Q. Does that include petroleum products?

A. Yes, it has included petroleum products and gases, combustible gases.

Mr. Freedman: Do you want to cross-examine him on his qualifications, Mr. Byrne?

Mr. Byrne: Yes, I think I would like to.

Mr. Byrne: May I cross-examine on his qualifications for the purposes of the record?

The Court: Yes.

Cross examination.

By Mr. Byrne:

Q. You said you did graduate work at Columbia?

A. I did some graduate work there. I did not get a graduate degree.

Q. You do not have a graduate work did you do?

A. Oh, I did a little bit more than one semester hour, as I recall and I have taken certain courses not for credit at other schools since.

Q. What schools?

A. Brooklyn College. I have done some study there.

Q. I can hardly hear you.

A. I say Brooklyn College. I have taken a few subjects there.

Q. What were the subjects?

A. Oh, they weren't relevant to this. Oh, I mean, they were courses in history that I took.

Q. I see; and what were the courses you took in the semester of graduate work that you did at Columbia?

A. I was matriculated in the Graduate School of Physics at Columbia.

Q. Physics?

A. That is right. And I was dealing primarily there with mathematical problems.

Q. Matriculating. By "matriculating" you mean you registered and commenced in the school, you say, of mathematics?

A. No, Graduate School of Physics.

Q. Physics?

A. That is right.

Q. And didn't you say something about mathematics, too? [fol. 216] A. Well, the subject that I was studying from the time that I was there was advanced mathematics.

Q. Was advanced mathematics?

A. That is right.

Q. And you said that you were a materials engineer?

A. That is right.

Q. And that has to do, sir, does it not, with the properties, strength, utilization of various materials and construction of many things, does it not?

A. That is right.

Q. Now, you said that you had written a hundred technical articles. Were they in the field of materials engineering?

A. Yes, most of them.

Q. Most of them?

A. I don't know. I did say a hundred—around, I think, more than a hundred, as a matter of fact.

Q. But they were in the field of materials engineering?

A. Yes.

Q. The advanced course in mathematics that you took at Columbia, what was it?

A. Calculus, a review course in calculus. I had had the calculus, differential and integral calculus. It was a review course preparatory for some other work.

Q. I see; you said that you had written an engineering book?

A. That is right.

Q. Was that in the field of materials engineering?

A. That is right.

Q. You were a test engineer for Wright Aeronautical Corporation?

A. That was my first job.

Q. Testing what?

A. '39. I said testing engines, development, design of engines and carburetion design in the fuel development section, in the carburetion development section and in the engine development section. I also worked in the metallurgical section at Wright for a period of a few months after my work in the engine development section.

Q. And you were employed as a chief materials engineer for the Norden Bombsight Company?

A. For the Indianapolis Division, yes.

Q. I see.

A. I was consultant for the New York Division but my primary job responsibility was with Indianapolis.

Q. But even as consultant for the New York Division your duties dealt with those of a materials engineer?

A. That is right.

Q. Have you ever been employed in the petroleum industry?

[fol. 217] A. No.

Q. What was the subject of the engineering book which you wrote?

A. Investment castings.

By the Court:

Q. What?

A. Investment castings.

By Mr. Byrne:

Q. Investment castings?

A. That is right.

Q. O., that would pertain to materials, would it not?

A. That is right.

Q. You said that you had designed, that you have invented or was it designed a device which you called a scavenging device to recover the fuels from oil tankers?

A. That is right.

Q. Is that in use in the trade?

A. Not yet. It is being considered, however, and a local architect was handling it until he got sick.

Q. I see.

A. Mr. Chapman.

Q. Is there a patent on that?

A. I haven't filed for one and I have no intention for filing for one. It is patentable, however. I have made a patent search. My attorneys have made a patent search. It is patentable but there is no point in filing for a patent.

Q. When was the patent search made?

A. Two or three years ago. I don't recall offhand.

Q. Now, of course, your scavenging device would be a new device in the field and unless it had been generally known and used in the industry prior to November 18, 1952—and it wasn't, was it?

A. No. It has no bearing on that accident. I don't intend for it to have.

Q. No. When did you become associated with the American Gas Association?

A. I am not a member but I have been doing consulting work for them and for various members of the American Gas Association since 1941, I believe, when I was at Sperry.

Q. Now, you said that you had given lectures to the American Gas Association?

A. That is right—and I don't recall the year. As a matter of fact, I have given and I have prepared a number, quite a number of technical articles for the American Gas Association, some of them delivered by other people than myself, and all of them have been published in their various publications.

Q. What was the subject matter?

[fol. 218] A. I don't recall all of them but, for example, I can recall one dealing with the comparative properties of fuel gases and versus fuel oils in the resultant metallurgical properties of nonferrous metals.

Q. Oh, I see. So that the—

A. It was comparing the effect of fuels on the metals.

Q. But basically, then, it was a study in metallurgy?

A. No. It basically involved a consideration of fuel effects on metals, so you had both the chemistry of the fuel and the chemistry of the metal to consider.

Q. But not the theory of the combustion?

A. Theory of combustion when you make a use of a fuel is more or less axiomatic.

Q. Now, you have qualified in other fields as an expert, have you not, Mr. Von Ludwig?

A. Yes; I have on occasions.

Q. Did you qualify in a case in this court as a materials engineer in which you stated—

Mr. Byrne: Now I have the testimony here, Mr. Freedman, if you would like to see it.

By Mr. Byrne:

Q. —that a materials engineer is an engineer who deals with the physics, chemical, and the chemical properties of all metals and non-metals that are used in fabricated structures.

A. That is right, metals and non-metals.

Q. Used in fabricated structures.

A. Well, "structures" is a general word. It might be making an automobile. It might be making a ship. It might be making an airplane. It might be making a tank for holding a combustible substance. It might be in the construction of piping. It might be in the construction of still or refining equipment. I mean, that is all implied.

Q. That is what you meant by the term "fabricated structures"?

A. That is right.

Mr. Byrne: If the Court please, I object to the testimony of this witness on two grounds, first, that the testimony of an expert is not relevant to the duty which the—in other words; if you have to be an expert to know these things that is not the duty which the law imposes upon the operator of the vessel in navigable waters. He doesn't have to be an expert in all these fields.

The second ground is that—if you overrule that one—I say this gentleman may be a splendid expert in materials but is not hardly dealing with materials here.

The Court: I will overrule the objection on both grounds.

Direct Examination.

By Mr. Freedman (Continued):

Q. Mr. Von Ludwig, did you go down to the plant of the Gulf Refining Company just south of Penrose Ferry Bridge in Philadelphia and make an inspection personally?

[fol. 219] A. Yes. I did.

Q. Will you tell us what that inspection consisted of?

Mr. Byrne: Objected to. When?

The Court: Yes.

By Mr. Freedman:

Q. Can you place the time, please?

A. It was approximately eighteen months ago, if my memory serves me properly; about a year and a half ago, at the request of Mr. Alper from your office. Mr. Alper accompanied me. I don't recall the exact day.

The Court: About a year and a half ago. That would be about how long after the accident?

The Witness: About a year and a half after the accident.

By Mr. Freedman:

Q. Now, have you examined the interrogatories which were offered in evidence here showing the vessels which were at the Gulf dock and the cargoes which they were loading or discharging?

A. Yes. I have.

The Court: And, by the way, is it a fact, is it a conceded fact that there has been no great material change or was no great material or important, substantial material change in the instruments and locations of the various instrumentalities along there in the year and a half after the accident? Is that a fact?

Mr. Byrne: I don't know, sir.

The Court: Well, it may be necessary to prove it. I don't know. However, let us go ahead.

Mr. Freedman: All right, sir.

By Mr. Freedman:

Q. Have you examined the weather reports which are in evidence showing the temperatures and the barometric readings and the various other data?

A. Yes. I have.

Q. And have you examined the Coast Guard pictures which are in evidence?

A. Yes. I have.

By Mr. Freedman:

Q. Now, Mr. Von Ludwig, will you please assume these facts that I am about to give you now on this hypothetical question.

Q. While we are waiting for Mr. Byrne may I ask you this further question: When you were down making your inspection at the Gulf Refining plant did you also inspect the contour, the river and the contour of the land adjoining?

A. My inspection, if you hadn't interrupted before I completed the answer—

Q. Yes, I am sorry.

A. My inspection of that day consisted of the following factors; First I went to the Penrose Avenue Bridge which [fol. 220] crosses the Schuylkill River, the road leading to which intersects at that point the Gulf property on the Philadelphia side of the river. I stopped about midway, in fact at several points along the bridge, to study the alignment of the refining equipment towers, slips, tanks and so forth which occupy the property of the Gulf Refining Company as well as the Esso Receiving Depot on the Chester side of the river. I made a number of photographs of the configuration of the river at that point and of some of the equipment and facilities of the Gulf Company.

I also checked while on the bridge the compass points bearing on the property and river. Afterwards I drove to the Chester side of the river and gained access to the prop-

erty of the Esso Company and permission to go to the bank of the Schuylkill River opposite the Gulf Refining Company, and I walked for a considerable distance up and down the river at that point in the company of Mr. Harrington and Mr. Alper, from your office, to look over the configuration of the ground, the water, the various alignments of towers, tanks and other refinery equipment across the river on the property of Gulf, particularly by means of a compass, determining the alignment of the facilities in respect to the direction of the wind as had been determined by the report of the Weather Bureau, also estimating the—well, as a matter of fact, measuring some of the distances by means of a range finder which I carried with me, the width of the river and the approximate location of the tug at the time of the incident as indicated by Mr. Harrington.

I also made a series of photographs, several photographs, from the bank of the river, of the river and the Gulf property, just to show the alignment of the equipment and facilities from approximately the point pointed out by Mr. Harrington as being the approximate location of the ship at the time of the incident.

That was what my examination consisted of.

Q. Now, you mentioned before taking certain pictures. Would you please be good enough to identify these? Are these the pictures which you took? Let me hand them to you.

Is that one?

A. This is one.

Q. Can you identify that?

A. This is one made from the Penrose—

Mr. Byrne: May I see them, Mr. Freedman?

Mr. Freedman: Sure.

A. —Bridge. As a matter of fact, I waited until this particular tug was in a position which in relation to the Gulf dock and the channel of the river was according to Mr. Harrington and the position occupied by the "Herron" at the time the accident occurred.

The Court: I suppose I ought to see them.

Mr. Freedman: Will you pass it up to the judge, please?

The Witness: This boat is where the "Herron" is sup-

posed to have been. The Gulf dock is on the righthand side of the picture, if you look at it.

[fol. 221] By the Court:

Q. It was taken from the bridge?

A. That was taken from the center of the bridge over the river at that point. That gives a good idea of how far the tug was from the bridge and how far it was from the dock, and that is approximately where it normally passes in the channel.

Mr. Byrne: I ask that that be stricken.

The Court: Yes, I will strike that out.

By the Court:

Q. Where is what you call the dock?

A. The dock is just to the right of the boat there, that concrete structure—no, past that, just around the curve in the other direction (indicating).

Q. Up here?

A. Yes, right up there just behind the barge—behind the tug. That is the dock where the men came out of the river after the accident.

Mr. Freedman: May I have that marked, please?

Mr. Byrne: May I have some of this explained to me?

Mr. Freedman: You will have your opportunity on cross-examination.

Mr. Byrne: No, please. The witness was pointing out to the Court—

Mr. Freedman: Let me have it marked first.

(Photograph was marked Claimants' Exhibit 24 for identification.)

The Court: Let the witness take that red pencil and just make a dot. Don't spoil the picture, but just make a dot where the dock is.

The Witness: Well, this was the dock area indicated by Mr. Harrington as where they swam to after they left the boat.

The Court: Let me have it.

I have marked it in red.

Mr. Freedman: Shall we put an initial for the record, Judge?

The Court: No, that is the only red spot there is on it. I don't think you will need anything more. I hate to spoil those nice pictures.

Do you have another one?

Mr. Freedman: We have quite a few, Judge. I will introduce them.

By Mr. Freedman:

Q. Will you identify this next picture, please?

A. This picture was made with a telephoto lens to show a close-up of a barge approaching the navigation channel marker at that point and to show in a slightly better detail the—

The Court: A barge? You mean a tug, don't you?

The Witness: Yes, I beg your pardon, I mean a tug. There is a barge in the lower righthand corner of the picture. Of a tug approaching the dock area. According to Mr. Harrington, it was approximately at this point that the fire [fol. 222] actually commenced. The other photograph showed approximately the point the tug had reached when they abandoned ship. That was the reason for the sequence.

(Photograph was marked Claimants' Exhibit No. 25.)

By the Court:

Q. Now, that is number what?

A. 25.

Q. That shows where the tug was when the fire started?

A. That is right, Your Honor.

Q. As pointed out to you.

Mr. Freedman: May I have these marked, please.

(Five photographs were marked Claimants' Exhibits 26 through 30 inclusive for identification.)

By Mr. Freedman:

Q. Now, Mr. Von Ludwig, I show you an exhibit marked C-26. Will you please identify it and state what it shows?

A. C-26 is another photograph of the river to the left and the Gulf Refinery to the right half of the picture with a tug showing at the left margin.

The purpose of this picture is to show the alignment of the facilities of the Gulf Refining Company in respect to the sweep of the bend of the river at that point.

Q. I show you, Mr. Von Ludwig, C-27 and ask you to identify it and explain that one.

A. This is a photograph made with a wide angle lens from the bridge, showing most of the facilities of the refinery located on the point of land from the Penrose Ferry Bridge up to the curve of the Schuylkill River wherefrom the "Herron" proceeded on the night of the accident. It shows more of the facilities of the refinery in that area.

Q. I show you C-28 and ask you to identify and explain that one, please.

A. This is only a wide angle view of the entire scene, incorporating the river, the Gulf Refinery facilities and the Esso storage field located across the river from the Gulf Refinery.

Q. I show you C-29 and ask you to identify and explain that one, please.

A. This photograph was made with a normal lens on a position on the Chester bank of the Schuylkill at a point directly opposite the Gulf plant approximately in the position where the "Herron" was supposed to have entered or is said to have entered the inflammable substances; in other words, where the fire started.

Mr. Byrne: As reported to you by Mr. Harrington?

The Witness: All of this is as reported to me by Mr. Harrington. That is the only evidence I had at the time.

[fol. 223]

By Mr. Freedman:

Q. I show you C-30 and ask you to identify and explain that, please.

A. This is a photograph of some of the refinery still equipment and other facilities of the Gulf plant just oppo-

site the point where Mr. Harrington indicated the vessel finally came to rest—or at least at the point where they abandoned it.

The Court: Is there any evidence, gentlemen, in the case as to the distance which the tug proceeded from the time the fire started until the time everybody jumped overboard?

Mr. Byrne: None.

The Court: As to the distance. There is evidence as to time, but—well, all right, I just wondered.

By Mr. Freedman:

Q. Now, Mr. Von Ludwig, taking into consideration the answers to the interrogatories which you examined, which are in evidence, the Weather Reports, Coast Guard pictures, and assuming that on November 18, 1952, shortly before ten p.m. the tug "Arthur N. Herron" took in tow a scow loaded with mud near the Atlantic dock in the Schuylkill River for a trip down the river to the dumping grounds near the mouth of the river, and during this trip the vessel had to pass three refineries, the Standard Oil, the Atlantic and the Gulf Oil Corporation; that before starting the journey the port side of the tug was moored to the scow and kerosene lanterns were placed on the deck of the scow on the forward and after ends on the port side. And the picture of the lanterns is in evidence. Have you seen that picture or those pictures of the lanterns?

A. Yes, I have.

Q. That as the vessel proceeded downstream the tide was flood, and there was a southeast 4-mile wind and the humidity and other weather conditions were as are indicated in the weather reports which are in evidence;

That as the tug approached the Gulf Refining plant there was a smell of gasoline in the air; that there were seven vessels docked at the Gulf Refinery loading and discharging petroleum products or at least six of them were loading and discharging there. I think the seventh was idle, as has been stipulated.

In any event, you have heard the evidence regarding those vessels and the cargoes which were loaded and discharged?

A. Yes.

Q. And assuming farther that there were red lights showing at the Gulf Refining spillways at nighttime—this was after nightfall—on November 18, 1952; that as the vessel and her tow were passing the Gulf Refining plant a small fire was first observed near the port stern of the scow and shortly thereafter the vessels were surrounded by flames on the water; that within about one minute the captain entered the engine room and pursuant to his orders the engines were first stopped, then put astern for about three minutes, then stopped again, after which the captain ordered the ship abandoned.

[Vol. 224] Now, assuming all those facts, Mr. Von Ludwig, do you have any opinion regarding the cause of the fire?

Mr. Byrne: If the Court please,—

By Mr. Freedman:

Q Just state if you have an opinion or not first.

A. Yes.

Mr. Byrne: May I object to the question? I don't care if Mr. Freedman wishes to reframe the question and put in the items out of the various reports which have been referred to. You will recall that he referred just blankly or in sort of a blanket fashion to the weather reports. Now, if the witness confines his answer, if Mr. Freedman wants to confine him to the weather conditions at that time, put that in.

The Court: I think it should be, no question about it.

Mr. Byrne: In other words, have the witness say or you say which factors out of all these reports you are considering.

The Court: Yes, that is right. I think your objection is well taken.

Mr. Byrne: There is a conflict, you see.

The Court: Yes, I think your objection is well taken. Now, you state the other points that you want.

Mr. Byrne: I will do that. You said three refineries. I think there are only two.

The other point, sir, is this, that included in the information are the statements made by Harrington not from the witness stand in this case or from any witness on the wit-

ness stand in this case, but shall I say the story that Harrington was recounting to this man on that day. Now, I say that is not properly included in a hypothetical question.

The Court: Only if Harrington is called and testifies that he gave him the correct information.

Mr. Freedman: I will recall Harrington for that purpose.

Mr. Byrne: Any information that Harrington gave from the stand, of course, is—

The Court: But I mean if Harrington comes back on the stand and says what he told Von Ludwig was a correct statement of the location and the surroundings, that will make it all right.

Mr. Freedman: I will recall Harrington for that purpose.

The Court: Yes, I think you should.

By Mr. Freedman:

Q. Mr. Von Ludwig, pursuant to Mr. Byrne's objection, in making your answer will you specifically indicate which of the information you rely on in making your opinion, in so far as the weather reports are concerned?

Mr. Freedman: Was there anything else, Mr. Byrne?

Mr. Byrne: And the letter from the electric company.

Mr. Freedman: And the letter from the Electric Company, yes.

[fol. 225] Mr. Byrne: And the photographs. In other words, so we will delineate the facts upon which he bases it. That is my point.

The Witness: Yes, sir, I understand.

By Mr. Freedman:

Q. You say you do have an opinion?

A. Yes, I have.

Q. Will you please state that opinion?

The Court: Well, you have to indicate what weather conditions and so forth you considered. You have to amend your question.

Mr. Freedman: I see.

By Mr. Freedman:

Q. Will you examine these weather reports, and indicate what information on there you have taken into consideration in making your opinion.

A. I took into consideration the barometric pressures for this particular day.

By the Court:

Q. Which were?

A. Well, it was fairly steady, high barometer ranging from a low of 29.90 inches to a high of 30.22 inches, but,—oh, I beg your pardon, I am not reading this correctly. This is the week of November 18, not just the day. On the day of November 18—

By Mr. Byrne:

Q. At what time during the day, please?

A. I have misread this, I beg your pardon. That was for the week preceding the incident. Those were the high and low figures preceding.

On the day of November 18 I think the significant figures should be those following 8:30 p. m. During the period from 8:30 to 11:30 the barometer was substantially unchanged, high 30.29 inches with a low at 11:30 of 30.25 inches.

Mr. Byrne: I object to your including that because at the time that this accident happened no one short of a deity could have told what the barometric pressure was going to be an hour afterward.

The Court: That is right, but this has a bearing on the cause of the accident. It doesn't bear on the question of negligence. The question is only the cause of the accident. That is all he is asking. It might be the barometric pressure a couple days later might furnish some light on that.

The Witness: If you will permit me, the only significance there is just to show that the barometer was substantially steady, that is all, before and after the incident; high and steady.

Mr. Byrne: 30.29 inches.

The Witness: That's right, up to the time of the accident. I also took into consideration the relative humidity as re-

ported in this paper for November 18. At 10:30 p.m. on that date the relative humidity was 80 per cent at the point where this humidity figure was measured, which is an important consideration. It had varied during that day from a high of 93 per cent at 11:30 a.m. to a low of 73 per cent at 7:30 p.m. And as I stated, it was 80 per cent reported [fol. 226] at the time of the incident.

I also took into consideration the wind direction and force, which was from 9:30 until 10:30 indicated to be 4 to 5 miles an hour from a direction south southeast to southeast.

I also took into consideration the air temperatures reported, not only for the day of the incident, but for the week preceding the incident, the mean daily temperatures.

Q. Just the means?

A. Yes, the mean daily temperatures. The general weather conditions for the preceding week were factors which were considered, the amount of rain, the—

Q. Well, will you give us the factors.

A. I beg your pardon. Well, they are in this report if you want me to read them all.

Q. Yes, I want you, please, to read out what you are considering.

A. Well, I considered in general the fact that on the 11th it was cloudy, no rain.

Q. That is the 11th day of November, one week before?

A. Yes.

Q. Go ahead.

A. And on that day the mean temperature was 39 degrees. On the 12th it was clear, no rain, and on that day the mean temperature was 41 degrees.

Incidentally, the barometric pressures on those days—on the 11th was 30.12 inches; on the 12th was 30.20 inches.

Q. And you considered all of these factors?

A. All of these factors entered into the general consideration of the problem.

On the 13th it was clear. The mean temperature was 42 degrees. The barometer was 30.29.

On the 14th it was partly cloudy with ground fog and smoke. The barometric pressure was 30.30 inches. That is, these are mean barometric pressures. The temperature was 45 degrees.

On the 15th the weather was cloudy with rain, fog and smoke. The temperature, mean, was 50 degrees. The barometer was 30.22.

On the 16th it was partly cloudy with trace of rain. The mean temperature was 56 degrees. The barometer was 30.19.

And on the 17th, the preceding—the day preceding the accident, it was cloudy with precipitation. The mean temperature was 47 degrees. The barometric pressure was 30.40.

Mr. Freedman: Does that satisfy your objection, Mr. Byrne?

The Court: Yes.

Mr. Byrne: If that is all that the gentleman has considered I think that satisfied the court's ruling, Mr. Freedman.

The Witness: I also undertook to consider the—

Mr. Byrne: I can't hear you, sir.

[f.l. 227] The Witness: I beg your pardon. I also undertook to consider the climatological data afforded by the Weather Bureau.

By Mr. Byrne:

Q. The what data?

A. The climatological data of the Schuylkill Valley area for that period of time.

Q. What is that? Where is that?

A. I beg your pardon?

Q. Where is that in this case?

A. Well, I have it here and I would have introduced it—

Mr. Freedman: Have you got it there?

The Witness: —if you want it, or I believe Mr. Freedman has the paper.

By Mr. Byrne:

Q. Well, Mr. Von Ludwig, I want you to clearly understand, sir, that you are not to consider any extraneous factors.

A. No, sir. I was not considering these as extraneous factors.

Q. No. They may be quite pertinent to you but they must be in evidence in the case.

Mr. Freedman: Is that what you are talking about (indicating)?

The Witness: Oh, I see what you mean.

Mr. Byrne: Judge Kirkpatrick, am I correct in that statement?

The Court: What?

Mr. Byrne: They must either be from the evidence in this case—

The Court: Oh, yes.

Mr. Byrne: —or he must be asked to assume them in a question given him by Mr. Freedman, or he must tell us what he is assuming. Am I correct, sir?

The Court: Yes. Surely.

The Witness: Well, that is why I brought this out. This was part of what we had our discussions on, and I would have brought it into evidence, and I call your attention to it now.

Mr. Freedman: Is this what you had referred to?

The Witness: Yes. That is what I had in mind.

Mr. Freedman: Will you mark it. I will give it right back to you. I would just like to mark it.

Mr. Byrne: Well, do you expect to get it in evidence?

Mr. Freedman: This should be C-31.

(Climatological data, Pennsylvania, November, 1952, was marked Exhibit C-31, for identification.)

By Mr. Byrne:

Q. Mr. Von Ludwig, while that is going on—

Mr. Freedman: Do you want to see those, Mr. Byrne?

Mr. Byrne: Yes, I do.

[fol. 228] By Mr. Byrne:

Q. May I point out to you, sir, that you have given us the data that you considered on every day except the 18th.

A. I thought I covered the 18th.

Q. You have some of the data on the 18th but you have not included the temperature.

A. Didn't I? I beg your pardon. I thought I had. I am sorry.

On the 18th—well—oh, the temperature. On the 18th—just a minute. I am sorry. On the 18th the mean temperature was 46 degrees. I didn't mean to overlook that.

Q. Now, let me check a second. You said that the—now, what barometric pressure did you consider on the 18th?

A. Well, I believe that I mentioned that the barometric pressures, which I felt were—there is really very little change during the day, but from the period from 8:30 until 10:30 it was 30.29 down to 30.25 at 11:30.

By Mr. Freedman:

Q. At night?

A. I thought I had given that.

Q. That P. M., was it not?

A. P. M., yes.

Q. On November 18?

A. Yes.

By Mr. Byrne:

Q. And you considered the average temperature as being 46?

A. That was what the Weather Bureau gave here, and I accepted it.

Q. Now, you did not either give us the state of the weather for the 18th. You have given us the state of the weather like clear, no rain, clear—

A. Oh, I see. On the 18th, cloudy day with trace of precipitation, drizzle from 3:20 a. m. to 3:50 a. m., fog continuing from midnight to 1:05, ground fog. Smoke began at 7:09 a. m. At 10:30 p. m. the sky was covered by nine-tenths cloud at 7,000 feet and visibility was six miles.

Q. I see. Now, Mr. Freedman has handed me a compilation of climatological data for Pennsylvania published by the Department of Commerce for the month of November, 1952, and marked C-31. Would you mind telling us if you considered any of the data in this volume and which data you considered?

A. Well, at the time I read through this particular re-

port I was interested merely in ascertaining the precipitation and the temperatures in the watershed of the Schuylkill just to get an idea of what the run-off water conditions were and temperatures were. That was the only purpose of my consideration.

Q. Well, but you reached some conclusion based upon it?

A. Well, the conclusion was based on the temperatures reported in this for the reporting stations that affected the Schuylkill, that the water was fairly cold at the run-off point. In other words, you can't draw an absolute [fol. 229] temperature from it but the indications are that the run-off water temperature was under 40 degrees during that period of time affected by this report.

Q. Well, now, please tell me what run-off point you considered?

A. I beg your pardon?

Q. Please tell me what run-off point you considered?

A. I beg your pardon?

Q. You will have to take it.

A. Very well. I will be happy to. I meant the time here. The Coldale reporting station; the Fredericksville reporting station.

Q. All right. Give me the dates, please. Coldale?

A. Oh, the dates are covered by the reports, but the dates that I considered were for the week preceding the incident—in other words, from the 11th to the 18th.

Q. I see. In other words.

A. And all of that is reported here on a per diem basis.

Q. Take Coldale between the 11th of November and the 18th of November. You considered the temperature of the water at Coldale?

A. The temperature—the temperatures that are reported and the precipitation data that was reported; yes.

Q. I see. And what were those water temperatures at Coldale? Mr. Von Ludwig, is this—

Mr. Freedman: Don't you want an answer to that question?

Mr. Byrne: Yes; but if it is going to take a long time I hate to do it.

The Witness: I explained to you the only significance—

By Mr. Byrne:

Q. Isn't it a significance?

A. I explained to you the only significance to the specific day, date, time on temperature in these various points is a controlling factor. The over-all significance is merely that for the preceding week prior to this accident in the Schuylkill River watershed the day—the temperature and the precipitation was such that the water was cold, around 40 degrees. That is all. That is the only thing I was concerned with. Now, if you want me to go through this and read this, there is an awful lot of data.

Q. Now, will you let me see where the water temperature is recorded?

A. No. I did not say that the water temperature is recorded.

Q. Well, you just say the atmospheric temperature?

A. I considered the atmospheric reported temperatures and the precipitation factors that were reported.

Q. And to make it quick just tell me what stations you considered, or did you consider them all.

A. Well, it was necessary to consider all of them—in other words, justify an approximation.

Q. Where are they?

A. Well, if you—look, here is what I did and this is what you are going to do if you want to save the Court's time. This was the points that I read, the check-off temperatures and the tables. Now, there were several tables reported [fol. 230] frequently for these positions here. There is only one report. At this position here there are three. At this position here there are four. The same thing is followed down here. The only idea was to get an idea of what the run-off temperature was. Right?

Q. And you have taken into consideration those that you have marked on here?

A. Well, those are the ones that are on the watershed area of the Schuylkill. That is all.

Q. But they are the ones you considered?

A. They are the only ones I considered.

Q. They are next to the last page of this C-31?

A. Yes, sir.

Q. Anything else?

Mr. Freedman: Are you all through, Mr. Byrne?

Mr. Byrne: Well, I was just getting straight any other data that he was including in his basis for an opinion.

By Mr. Freedman:

Q. In forming your opinion have you considered anything else other than what I have asked you to assume in these documents which have been identified?

A. Only what I have heard here in court and the weather data that I have outlined and my own observations on the site, the charts, the weather condition and the testimony. That is all.

Q. You have been in court here throughout these proceedings?

A. Yes; I have.

Q. Now, Mr. Von Ludwig, I am just going to ask you to assume only those facts which I have related to you in this hypothetical question and the various reports to which I have referred and the report to which you have referred. That is the climatic report.

Mr. Byrne: May I ask Mr. Von Ludwig one question with respect to that climatic report?

Mr. Freedman: Surely. Go ahead.

By Mr. Byrne:

Q. Mr. Von Ludwig, have you assumed in connection with that climatological report that the water temperature is identical with air temperature?

A. No. You don't assume that and it never is. As a matter of fact, that is why I had to look at it for more than one day to get an approximation. So the water temperature won't be identical.

Mr. Freedman: I think perhaps this goes beyond the scope of Mr. Byrne's—

Mr. Byrne: It goes beyond the scope of my question.

Mr. Freedman: What is that?

Mr. Byrne: It goes beyond the scope of my question. [fol. 231] Mr. Freedman: Yes. I don't mind your coming in at this point to consider the facts upon which I asked him to base the hypothetical question.

The Court: Yes. That is right.

Mr. Freedman: But beyond that I think you ought to restrict it to cross-examination.

The Court: Yes. I think that is correct.

By Mr. Freedman:

Q. Now, Mr. Von Ludwig, I am asking you to consider those facts which I have outlined to you in this hypothetical question as well as in the various documents and information to which I have referred. You have stated that you do have an opinion as to the cause of the fire. Will you be good enough to state what that opinion is.

A. I think that the cause of the fire, that is the combustible substance involved in the fire, was an accumulation of combustible fumes and condensate of petroleum fractions on and near the surface of the Schuylkill River in this area which the Barge or Tug "Herron" proceeded. The source of ignition used—

The Court: The—

The Witness: I beg your pardon, Your Honor.

The Court: Well, go ahead. Let me see. Maybe it is just what I was going to ask.

The Witness: The source of ignition used, judging from the evidence and the photographs, was the kerosene lantern on the front of the scow.

Mr. Byrne: Will you note that answer so that you can come back to it for me, please.

By Mr. Freedman:

Q. Now, Mr. Von Ludwig, will you tell the Court what you base your conclusion on, please:

A. Well, the fumes which are invariably present around a refinery and which are also invariably displaced from vessels loading and discharging cargoes of petroleum products are all combustible when they are mixed with air in proper proportions. Generally speaking the lower limit of inflammability for this mixed petroleum fume substance is 2 per cent—in other words, 2 per cent of the combustible gases in air. The balance is air. The upper limit of in-

flammability is generally speaking $9\frac{1}{2}$ per cent. There are pure gases of these—of this family, which, of course, have different inflammability limits, but I don't think any pure gas was involved in this incident.

The gases which are driven off or given off from these various crude and refined petroleum products are, with the exception of methane and ethane, heavier than air. Their gravity in relation to air varies from 1.5 to over 3 times the weight of air under standard conditions of temperature and pressure and humidity.

By Mr. Byrne:

Q. I can't hear you. What did you say about temperature and pressure?

[fol. 232] A. I beg your pardon. You didn't hear me. I am sorry. I am sorry.

Under standard conditions of temperature and pressure these specific gravity differences apply. In order for these fumes to concentrate sufficiently that at least the minimum level of combustibility will be encountered, it is necessary, of course, that a sufficient volume of fumes exist initially—in other words, a sufficient source that will give rise to a combustible mixture—and it is also necessary that the air environment conditions be such as to impede the rate with which these fumes will become diluted below the combustible limit. If these fumes are given off from, let us say, a tanker, for example, or a storage tank on the refinery property, they are 100 per cent—

Mr. Byrne: I must object, sir. There is no evidence in this case that any fumes were given off from the storage tanks in this case.

The Court: I think that is true.

The Witness: Your Honor—

Mr. Byrne: Please, Mr. Von Ludwig. That is a question for the court.

The Witness: All right. I am sorry. I don't mean to interrupt.

Mr. Freedman: Please omit the source of the—well—

The Court: Yes. For the purpose of this question why don't you omit the source of the—

Mr. Freedman: I was just going to say the source of the combustible fumes is entirely irrelevant—

The Witness: All right.

Mr. Freedman: —because this is not a suit against the Gulf Oil Corporation.

The Witness: All right

Regardless of the source, when fumes are displaced from a container holding volatile petroleum fractions or products, at the time that the fumes emanate from the container, at the instance of emanation, they are 100 per cent rich if the container has been otherwise airtight, held airtight.

By Mr. Byrne:

Q. If the container had been otherwise what?

A. Kept airtight—in other words, if it is a reasonably enclosed container, vessel.

Q. Are you assuming that to be a fact in your answer?

A. I know that is a fact.

Mr. Byrne: I object to it.

The Witness: I am not assuming. I know it is a fact.

Mr. Byrne: I object, sir. There is no evidence here that the tanks here were airtight.

The Witness: I don't even know what tanks you are referring to now.

Mr. Byrne: Now, please, please, please.

The Court: Well, I don't get the exact point.

[fol. 233.] Mr. Freedman: He is not going to the source. He is not going to the source at all, sir. He is giving the reasons for his conclusion and he is stating—

Mr. Byrne: Premises that are not in the hypothesis.

The Court: Well, what did he say that was objectionable?

Mr. Freedman: Well, will you please repeat it. I don't think it is objectionable at all.

(Answer read as follows:)

“Regardless of the source, when fumes are displaced from a container holding volatile petroleum fractions or products, at the time that the fumes emanate from the container, at the instance of emanation, they are 100 per

cent rich if the container has been otherwise airtight, held airtight."

Mr. Byrne: That is what my objection is too, sir, any hypothesis based upon that assumption.

The Court: All right. I will overrule the objection.

By Mr. Freedman:

Q. Go ahead, Mr. Von Ludwig, will you.

A. The moment the fumes encounter the air there is a tendency for the air and the gases or the fumes to intermingle. The air begins immediately to dilute the fumes. However, where you have fumes that are heavier than air encountering substantially still air of high density and high humidity.

Mr. Byrne: That is objected to, sir, because again he is assuming a hypothesis that is contrary to the statement for the hypothesis of this question that the wind velocity at this time was—I will tell you just how many miles per hour—

Mr. Freedman: Four miles an hour.

The Witness: Four miles an hour is substantially still air.

Mr. Byrne: Four miles per hour.

The Witness: And I am considering that.

The Court: Well, you are considering the velocity as four miles per hour.

The Witness: Of course.

The Court: He simply characterized that as still air.

The Witness: Substantially still air.

The Court: Well, substantially.

The Witness: I did not say "still," Your Honor.

The Court: All right, all right.

The Witness: As a matter of fact, that movement of air is significant further on.

The Witness: All right.

Mr. Byrne: Your answer—just what did he say, sir, the movement—

The Witness: That movement—

Mr. Byrne: I will get it from the reporter better.

(Answer read.)

[fol. 234] The Court: Go ahead.

The Witness: I have to recollect my thoughts.

The Court: Yes.

The Witness: When the fumes are encountered or are emitted into air of very low velocity and of high humidity, particularly when the temperature of the air and of in this particular instance the ground and the water is between 45 and 55 degrees—

Mr. Byrne: That is objected to.

The Witness: —or let us say that range and under that temperature range—

Mr. Byrne: If the Court please, there is a definite statement here in the hypothesis as to the temperature of the water.

The Witness: I beg your pardon?

Mr. Byrne: Definite statement in your hypothesis as to the temperature of the water.

The Witness: There was no definite statement. There was reference to the Philadelphia—in fact, there was no specific reference to it. The Philadelphia Electric Company states that the temperature of the water at their receiving point was 53 to 55 degrees.

Mr. Byrne: You must assume that to be correct, sir.

The Witness: I don't assume that to be correct for the water in the river. I assume that to be correct for the water at their point of measuring the temperature.

Mr. Byrne: Oh, well, then I must object to this question, sir. He is discarding part of the data and accepting others, and that is what I thought was going on.

Mr. Freedman: No. He is not discarding any data.

Mr. Byrne: The date that you gave him in the question, including that.

Mr. Freedman: Well, did you read it?

Mr. Byrne: Yes. I did.

Mr. Freedman: May I have that, please?

Mr. Byrne: Very carefully.

Mr. Freedman: If you looked at it you would see that it says, "the elevation."

The Witness: Here is the temperature.

Mr. Byrne: There is the temperature.

The Witness: Here is your temperature.

Mr. Freedman: But, just a minute. The elevation of the river was based on a tide gauge reading taken within the plant.

Mr. Byrne: That is right.

The Witness: That is at the same point they measure the temperature.

[fol. 235] Mr. Byrne: How do you know that?

The Witness: Well, as a matter of fact I know that only by means of a phone conversation relative to this paper.

Mr. Byrne: I object.

Mr. Freedman: You asked him, Mr. Byrne. He directly answered your question.

Mr. Byrne: I object to any further opinion or explanation based upon a hypothesis which is at variance with the evidence submitted to this man, or gotten in a telephone conversation or anything else.

The Court: What is the variance?

Mr. Byrne: The temperature of the water, sir, quite a significant factor in this case.

The Court: Well, what is the variance; between what and what?

Mr. Byrne: You have to look there. I think it says 57. Between 53 at eleven p.m., and this witness just in his answer had it down—

The Witness: I was within that range. I said from 45 to 55 degrees. That is not at variance, that is right what this paper says. I am not at variance with the testimony. I don't happen to agree with that piece of paper but it doesn't affect it.

The Court: I will overrule the objection. Go ahead and finish. Do you have more?

The Witness: Your Honor, there have been so many interruptions I have even forgotten the question.

The Court: Well, the question was to give your reasons why you say that the lamp exploded the vapor or—

Mr. Freedman: The reasons on which you based your conclusion, yes.

The Witness: Oh, I see. That was the question, all right.

By the Court:

Q. Tell me something, maybe I can point it up a little. Where does vapor of the kind you are speaking of when it is over a body of water like the river, where does it accumulate, high or low?

A. It will accumulate at the lowest point accessible to it because of its specific gravity. Furthermore, because of the temperature conditions it will have a tendency to condense if the surface against which it accumulates and if it is at a temperature suitable for condensation—I would like to use a glass of water as an illustration to indicate what I have in mind. When you have a glass of water with ice in it sitting in an average room dew will condense on the surface of the glass because the glass has chilled the air below the dew point for that particular temperature and humidity condition. The same thing can happen with these volatile petroleum products. If they happen to accumulate, happen to come out in sufficient volume that they go above the relative dew point of their nature and meet a surface which is colder than their dew point they will not only [fol. 236] condense, liquefy on that surface, but will also have a tendency to impede the rate with which the air mixes with the residual fumes, so that they are not diluted beyond the combustion point as normally occurs if the air is warm and if there is adequate movement of the air.

Q. And does that keep them in an explosive condition?

A. Precisely. It keeps them in a combustible condition for a far greater period of time than is normal. And that is my belief, the explanation for the failure for the fumes which were being released on and near the river on the evening of the 18th of November, 1952—

Q. Would your answer be the same if you assume a temperature range during the time in question of 53 to 55 degrees?

A. It would be the same, Your Honor.

Q. For the water?

A. Yes, Your Honor.

Q. What was the air temperature that you assumed?

A. The air temperature that I assumed was as the Weather Bureau gave it, around 46 degrees.

There is only a slight technical difference, Your Honor. The higher the temperature, the condensate which comes out will be different chemically, and there is no effort to prove here what the condensate was. In other words, they are all combustible. It is a question of—

Q. In other words, as I understand your testimony it is that the conditions here were just right to produce a highly combustible layer of gas or vapor on the water?

A. Yes, Your Honor.

Q. What changes would have upset that nice balance that would produce that? Suppose it had been a great deal warmer than it was? Instead of 46, suppose the temperature of the air had been 66? Would the same thing have occurred?

A. Probably not, Your Honor, because you would then have more effective thermal convection currents moving the air and stirring the air and mixing the fumes and a less rapid rate of fall. You see, the specific density of the gas would be different if it were warmer.

Q. I wanted to find out just what the conditions were. Now, then, leaving the air temperature at 46, suppose the water temperature had been the same as the air, 46.

A. I think that it would have been an even greater tendency. I believe the water temperature was more probably that, as a matter of fact, but there would be a greater tendency for this effect to be present.

Q. How about humidity? What effect does that have on the whole proposition?

A. Well, humidity is related to a number of factors; temperature, air movement and the lack of air movement, and it mechanically impedes the rate with which the gases are diluted by the air. It is a mechanical impedance. Heavy, moist air tends—you can visualize this very easily by the common experience of coming down a slight grade when you have marginal cloud conditions and you run into a little bank of fog in a small valley. The same thing prevailed [fol. 237.] here. There was a tendency for a fog to settle out and the high humidity accelerated that tendency or assisted that tendency.

The Court: All right, I guess that is what I wanted to ask.

By Mr. Freedman:

Q. Now, Mr. Von Ludwig—

By the Court:

Q. You had to have a combination of factors here so that if any one of them had varied very greatly you wouldn't have gotten this explosive situation, as I understand it. Am I right about that?

A. You wouldn't have gotten the explosive situation precisely as it was here, particularly with the drifting of the fumes on the river, and so forth.

Q. That is right. There wouldn't have been any danger at all of explosion, would there, if one of these factors had been very different from what it is now? In other words, no matter what the temperature of the air or the water or the humidity, there is not always an explosive condition on the surface of the water there?

A. That is right. If there is a lot of air movement the possibility is greatly removed. I mean, if the air is moving, then the dilution factor overcomes all other factors.

Q. At what point would you say the igniting factor could have been raised above the surface of the water and pass with safety through the place where the layers of vapor were?

A. Well, it is hard to set an exact figure. The higher you are off the surface, of course, the less risk there is of ignition, because the more you go up in the air the more dilute the mixture becomes and you very rapidly get below the minimum level of 2 per cent.

Q. Do you think a height of eight feet would have allowed the open lamp to pass through without igniting the vapor?

A. I wouldn't say absolutely that it would have because that would depend on how much was around, but it would be certainly a great deal less than two feet or three feet.

The Court: All right, I think that is all I want to ask.

By Mr. Freedman:

Q. Can you identify the nature of the product, the gas which was involved?

A. I can identify the nature of the gas in the sense of stating, based only on the evidence that has been offered, that it was unquestionably a petroleum fume. I can't specifically state the composition.

Q. I think that is good enough.

Now, you said in your answer that you believe the fire started at the forward lamp on the scow barge.

Mr. Byrne: I object to that. I didn't hear any such testimony.

[fol. 238] The Witness: Yes, I did testify to that, that it did start at the forward lamp.

Mr. Byrne: You testified that it did?

The Witness: Yes, I testified that it started at the forward lamp.

By Mr. Freedman:

Q. Now, would you explain how you reached that conclusion, please?

Mr. Byrne: I object to that, sir. That is a supposition or an opinion directly opposed to the only direct factual evidence on the point in case.

The Court: I don't know, I will overrule the objection and see what he says about it.

A. I believe, if I recall the testimony of the only witness who saw the initial flame, that it consisted of a stream or a ribbon of fire extending approximately six feet back from the port, rear port of the barge, but not in contact with the barge at that point. That would tend to indicate that it most certainly did not originate at the second lamp. It also very clearly shows that—that picture given by Mr. Harrington very clearly showed that the flame was progressing along the line of least resistance, which happened to be the washline, the water washline from the barge initiated by the bow of the barge, and that the flame in its initial stage, which always follows the line of least resistance, happened to be selectively directed along that line as it flashed from the first lamp.

But more than that, photographs also indicate that the—the photographs of the lamp indicate that initiation of the flame occurred at inside the globe of the lamp because the globe of the lamp is shattered outwardly.

If the globe of the lamp had collapsed only from heat ipso facto it would have been melted but not shattered. There is a difference. The photographs show the glass lying around the base of the lamp.

By Mr. Freedman:

Q. Mr. Von Ludwig, had you finished your last answer or would you like to have the latter part read back to you? I had asked you how you reached the conclusion that the fire had started at the bow lamp.

A. Oh, I remember now.

Mr. Freedman: Would you read back the last part?

(The last portion of the witness' answer was read by the reporter.)

By Mr. Freedman:

Q. Had you finished that answer?

A. No, I hadn't. I had in mind mentioning—and I don't think that I did mention—the fact that flames travel with a very definite measurable speed. They are not instantaneously caused to exist everywhere within a combustible mixture of gases.

The rate at which the flame will travel will of course depend on temperature and pressure and composition of the gas as well as on the extent of dilution. I make no effort to establish exactly the rate they occurred here because [fol. 239] I don't know, but the rule, the knowledge is that the flames will travel with a speed of from 2000 to 5000 feet per minute under these general conditions. Therefore, it would have taken a significant instant of time between the initiation of the fire at the lamp on the bow of the scow and the instant where it was blatched or noticed by Mr. Harrington as being off the rear of the scow on the surface of the water.

It would also have taken a significant instant of time to completely surround the scow and the tug regardless of the exact nature of the combustible and regardless of the exact density of the mixture.

Q. Is that statement consistent with what happened in

this case, with what the witnesses described happened in this case?

A. Yes. Mr. Harrington's description of the ribbon of fire, as he put it or streamer of fire, is very concise and very good explanation of what you would notice under these circumstances. Everything taken into consideration, they were according to the evidence.

Q. And what followed immediately when they saw the water aflame all around them.

A. Yes, I think it was a very effective description.

Q. In your opinion, Mr. Von Ludwig, was it safe to carry the kerosene lantern on the deck of the scow under the circumstances.

Mr. Byrne: Objected to.

The Court: I will sustain the objection. That does not need an expert. He has stated what in his opinion the cause of the combustion was, and it is up to the Court to form its own view as to whether what was done was safe or careful or negligent or otherwise.

Mr. Freedman: I was going to ask him another question but I think Your Honor did ask him. My next question was whether or not if the light had been higher could the fire have been avoided. I think you did ask him that, didn't you?

The Court: Yes, we have had all that.

By Mr. Freedman:

Q. In your opinion, Mr. Von Ludwig, would the putting of the fire equipment into operation have had any effect on the fire on the vessel?

Mr. Byrne: Objected to. No qualification whatsoever.

Mr. Freedman: Yes, he has.

The Court: Yes, he is qualified to say that. You mean the fire on the river?

Mr. Freedman: No, on the vessel; to control and prevent the fire on the vessel.

Mr. Byrne: There are no qualifications here. He has qualified as an engineer—period, if he is that.

The Court: Well, I am going to take that subject to the objection. I have a good deal of doubt as to whether it is competent or not.

[fol. 240] Mr. Freedman: Well, I think in his qualifications, Your Honor may remember I asked him whether he had any training or education.

The Court: Yes, I remember. I say, I have a good deal of doubt about it.

Mr. Byrne: Do you remember his answer, Judge Kirkpatrick?

The Court: Well, it isn't so much a question of his competency as to whether it is a question for expert testimony at all.

Mr. Byrne: He said he was not trained in fire prevention and control.

Mr. Freedman: Oh, you have it wrong, Mr. Byrne.

By the Court:

Q. Well, were you or weren't you trained?

A. I said I was not trained in it but that I had done a good deal of consultant work in connection with it. I believe that was my answer.

Q. A good deal of what?

A. I have had that responsibility at quite a number of plants and facilities, to advise and to exercise—

The Court: Well, I will take the testimony subject to the objection.

Mr. Byrne: If the Court please, will you bear it in mind when I come to cross-examination?

The Court: Sure. You will have to cross-examine on that. That is not the situation that was presented with the other witness. This is different.

Mr. Byrne: If the Court please, I think it was but it won't appear clear until later.

The Court: All right then, the point is this, let's get the question clear. Do you mean—well, ask it again so we know exactly what you want.

By Mr. Freedman:

Q. In your opinion, if the captain of the vessel had put the fire apparatus into operation immediately that he saw the fire could it have been used with any good effect?

A. I think that if the water hose had been directed on the wooden superstructure of the ship, I think there is no question it would have certainly retarded the rate at which the superstructure would have ignited if not prevented it altogether. Prevention depends on the body of the water and the surface to be covered and wetted down.

Mr. Byrne: I move to strike.

The Court: Well, the same ruling.

By Mr. Freedman:

Q. Do you have any opinion regarding the use of fire extinguishers say inside the pilothouse or elsewhere on the vessel?

Mr. Byrne: Excuse me. Will you repeat the question, Mr. Harris?

(The last question was read by the reporter.)

A. Not particularly. I think—

Mr. Byrne: I object.

[fol. 241] The Court: Same ruling. It is the same situation as the other.

A. I don't believe under the circumstances that a fire extinguisher inside of the pilothouse would have had much effect. Outside, yes. But inside, no, because the flames were outside attacking it from the outside.

By Mr. Freedman:

Q. Do you think that they could have been used effectively on the outside?

A. Yes, and I think only on the outside under the circumstances.

Q. In your opinion should they have been used here, in this case?

Mr. Byrne: Objected to.

The Court: I don't believe that is a proper question.

Mr. Freedman: I will withdraw it.

By Mr. Freedman:

Q. Mr. Von Ludwig, in your opinion what was the effect of stopping and reversing the engines under the circumstances?

Mr. Byrne: Objected to.

The Court: I don't know whether it has anything to do with his specialty or not. I will permit him to answer it certainly not as a matter of seamanship, but—

Mr. Freedman: I don't ask it as a matter of seamanship.

The Court: Well, I will have to get the answer. I may have to strike it out I don't know.

A. Well, to ignite any substance requires a source of ignition, a temperature of ignition and sufficient time of contact to bring about ignition and sustained combustion. That is true of the fumes themselves, it is also true of the superstructure of the ship.

To stop in the midst of the flames could have no other effect than to bring the structure of the ship into close and sustaining contact with the flames that were surrounding it and therefore would—

The Court: Well, that is just what anybody would say.

The Witness: Yes, it is common knowledge.

The Court: It doesn't take an expert to say that.

The Witness: That is right. I am not representing it to be expert in that sense. It is just obvious.

The Court: If you don't get out of the flames you will stay in the flames is about what he is saying.

The Witness: Or attempt to get out of them, rather than stay in them.

The Court: Well, I will take his testimony as to whether it is wise or safe or unsafe. The answer might just as well be stricken out.

Mr. Byrne: That I so move.

The Court: Yes.

Mr. Byrne: I so move.

The Court: It is just ordinary, common knowledge.

[fol. 242] By Mr. Freedman:

Q. Mr. Harrington, Do you remember about a year and a half ago accompanying Mr. Von Ludwig for an examination of the Gulf Refining premises and the surrounding area where the accident took place?

A. Yes, I do.

Q. Keep your voice up like you did the other day after you got off the stand. Now I show you claimants' exhibit 24, and I ask you whether you can—

Mr. Byrne: May I see it, Mr. Freedman?

Mr. Freedman: Sure.

By Mr. Freedman:

Q. Would you examine that photograph and are you able to state whether the tug in that picture represents or is in the position that it was in at the time you left the vessel, went overboard, off the stern end with Bugoski?

A. I would say it was—

The Court: I can't hear you. I don't know whether he is even talking or not. I can't hear any sound.

A. It was right about here, right in back a little bit.

By Mr. Freedman:

Q. Just back a little bit?

A. Yes.

Q. A little bit, pointing a little bit above where the tug is in this pictures.

A. Facing upriver.

Q. Does the red dot to the right of the tug mean anything to you?

A. Yes, that is where I swam to.

By the Court:

Q. You say your tug was facing the other way?

A. No, we was—the bow of it was facing downriver but the boat was back a little further than that.

Q. Oh, it was facing the same way this one is?

A. Yes.

Q. How many feet back would you say, just your best estimate.

A. I could show you better on the picture, sir.

Q. All right.

A. Right about back in here (indicating).

Q. There (indicating)?

A. Yes, right about in there.

Q. All right.

A. And I swam——

Q. All right, I know where you swam.

I will make a red dot where you say it was. Is that down-river or upriver? Is this down, this way?

[fol. 243] A. This is going down the river.

Q. Toward the camera.

All right, there is a little dot. Is that right now?

A. The boat, I swam over to this little hut right here.

Q. Well, I don't care about where you swam, but I am talking about this dot here where you said the boat was when you went overboard. Is that red dot about the right place?

A. No, it was—see where the buoy is here?

Q. I think that is just a defect in the picture, isn't it? There isn't any buoy here.

A. Yes, there is a buoy here and a buoy here, sir. When I got off the boat was back in behind this buoy (indicating).

Q. All right, behind this buoy. Well, I will put it right there, then, Is that right?

A. Right around in here.

Q. All right, you make the mark yourself and I will rub the other one out.

The Court: All right, now I have it. He has a red mark where he said it was.

By the Court:

Q. That is where you went overboard, at that point where you marked it; that is where you went overboard?

A. Yes.

Q. That is where the tug was and you ran into the fire before you got there; that was further back?

A. Yes. We were into the fire.

The Court: All right.

By Mr. Freedman:

Q. Now, will you examine exhibits C-25, 26, 27, 28 -first of all, take a look at C-25 and let me know whether you can tell about where you believe the tug was at the time the fire first started, from that picture. Can you tell from this picture?

A. Yes, I can tell from the picture. The tug was coming down here and a little, say about past this buoy right here where the fire, where I thought, I am pretty sure it started at.

Q. Will you put a mark on here about where you think the tug was when the fire first started.

Mr. Freedman: I think that is good enough. Has Your Honor seen it?

The Court: It is about the same as the other.

Mr. Freedman: Yes.

By Mr. Freedman:

Q. Now, do the conditions that you see on those pictures, so far as you are able to tell, reflect the conditions that you observed in that vicinity at the time of the accident?

[fol. 244] The Court: Why don't you ask him if everything is the same as it was, and not use all those big words.

By the Court:

Q. When you look at that picture is it the same as it was at the time of the accident?

A. Yes, sir.

Q. The buildings and all the structures and everything else?

A. Yes, sir.

By Mr. Freedman:

Q. Will you look at all the rest of these pictures marked C-26, 27, 28, 29 and 30 and see whether the conditions were the same as they were at the time of the accident.

Mr. Byrne: Mr. Freedman, I will concede for the record that I have no reason to believe that there were any substantial changes in the Gulf plant.

The Court: All right.

Mr. Freedman: Very well, sir, that omits that.
You don't have to answer that.

The Court: No, you don't need to answer that.

By Mr. Freedman:

Q. Now, Mr. Harrington, one more question. At the time of the fire are you able to state whether or not there was any fire between the barge and the tugboat?

The Court: Do you mean when he first saw the fire?

Mr. Freedman: At any time.

The Court: Oh, at any time.

Mr. Freedman: Yes, sir.

The Court: Between the barge and the tug.

Mr. Freedman: Yes, sir.

The Court: All right, I understand the question.

By Mr. Freedman:

Q. Between the scow and the tugboat; was there any fire between the scow and the tugboat?

A. There was no fire—do you mean between the tug and the scow?

Q. Yes.

A. When the tug was up against the scow?

Q. That is right.

A. No.

By the Court:

Q. Did you see any flames coming up between them?

A. No.

Mr. Freedman: That is all.

[fol. 245] The Court: That is all, I guess, isn't it?

Cross examination.

By Mr. Byrne:

Q. Mr. Harrington, when you answered the last question, you said that there was no flame coming up at the point where the scow was up against the tug.

That is what you said, isn't it?

A. Where I was standing in the galley door on the deck, the boat is snug up against the scow. There was no fire there when I was standing out there at that time.

Q. In the galley?

A. I was between the galley—

Q. Yes.

A. —and the deck.

Q. But where this scow was not up against, tight up against the tug, was there fire in between?

For example, if you will look at the photograph, C-14—there may be a better one, sir. Yes, I think P-3 is a better one.

How about in the space where the scow was not tightly up against the tug? Was there fire there?

A. I don't know. See, here is where I was (indicating); see where this fellow was here?

Q. Yes.

A. I was looking back at the mate and the engineer, and I didn't especially have my attention on looking in here. I was looking around in here at that time (indicating).

Q. I see.

In other words, you don't know whether there was fire on the water that separated the tug from the barge up near the bow, let's say, that is forward of the place where the two touched each other?

You don't know whether there was fire on the water there or not?

A. Where I was standing at, there was no fire at all.

Q. That was at the very beginning, that you were at the mess hall or galley, rather. Were you standing up or sitting down in the galley?

A. Standing up.

Q. Now, can you indicate on the photograph P-5 where the galley door is and where the galley is on the tug?

A. This side here is the starboard side; this is the port side (indicating). I was on the port side, so it would be up about right up in here, where these bits are (indicating).

Mr. Freedman: Will you put a mark there, please?

[fol. 24c] By Mr. Byrne:

Q. Put a line there or something.

A. Around in here, near these bits (indicating).

Mr. Freedman: Would Your Honor care to see that?

The Court: What is that?

Mr. Freedman: Where the galley is.

Mr. Byrne: Where the galley is.

Mr. Freedman: Where he was standing in the galley, where the red mark is.

The Witness: That was on the other side.

By Mr. Byrne:

Q. You were on the other side from where you have made that mark?

A. Yes. I was.

Mr. Freedman: This is on the starboard side, and he was on the port side.

The Court: Yes.

The Witness: I was on the port side. I had one foot in the galley, and I had my shoulder up against the doorway where I was.

By Mr. Byrne:

Q. Now, the deck on which you were standing, was that the same level as the deck of the tug?

Mr. Freedman: Of the what?

Mr. Byrne: Of the tug.

Mr. Freedman: He was standing on the tug.

By Mr. Byrne:

Q. Do you understand what I mean? Were you standing on the deck of the tug?

A. Yes, I understand. It is like a little thing, you have got to step over it, on the bottom.

Q. About three or four inches high?

The witness is indicating.

A. It is about two and a half inches, I would say.

Q. About two and a half inches.

You are not on any other deck. You are on the main deck of the tug, except for this two and a half inches.

[fol. 247] A. I had one foot on the galley deck, and one foot on the outside deck, sir.

Q. Now, you said that you didn't see fire between the side of the scow and the side of the tug. Now, you meant while you were still standing there at the galley door?

A. When I was standing at the galley door, sir, when I was standing up against the—the tug was up against the scow. There was no fire there.

Q. Where was the fire when you were standing there? Was it all around you otherwise?

A. When I was on the port side, there was fire as far as—as far as I could see.

Q. Forward of the tug? Forward of the tug, as well as to the side?

A. You mean the bow of the scow?

The Court: Was it ahead of the tug, was there fire ahead of the tug as well as behind it?

Mr. Byrne: If you don't know, that is perfectly all right. If you don't know, I don't mean for you to try to answer my questions.

The Court: Try to answer if you can.

Mr. Byrne: Yes.

The Court: You said it was all around you.

Does that mean it was ahead of the tug as well as behind you, the fire?

The Witness: I don't know about the bow of the tug. I know it was all around the scow on the other side.

The Court: All right.

By Mr. Byrne:

Q. You have marked two pictures here this morning, C-24 and C-25. Now, this mark on the little building, on the side of the river, on C-24, that is where you came ashore; is that right?

A. Not this building here (indicating).

Q. What does that mark on the side mean? Did you make it?

A. No, I didn't make that. My mark is here, sir (indicating).

Q. Your mark is out on the river?

The Court: What is the mark on the side?

Well, that is the one I made. That is the dock. Yes, the one on the side, that is the dock where he said he landed.

The Witness: Here is where I got off the boat (indicating).

The Court: The dock is where you swam to.

Mr. Byrne asked you what you—

The Witness: This building here, they took me at that point—

Mr. Byrne: Now, this other mark in the river, I don't want to confuse him, but I think if you will examine these pictures, the mark on C-25, you will find it is further downstream than the mark on C-24.

[fol. 248] The Witness: Well, there is where I saw the fire, sir, and here is where I— (indicating).

Mr. Byrne: That is where I think he is confused.

I am not trying to confuse your witness, Mr. Freedman. I want to draw his attention to this fact, and I think that Mr. von Ludwig might confirm this, Mr. Freedman.

The Court: May I interrupt a moment?

Mr. Byrne: Yes, sir.

The Court: I think I can save an awful lot of time by asking one question.

(To the witness) When you went out with Mr. von Ludwig, did you point out to him on the surface of the river, did you point out to him where the fire started, where you first got into it, and where you got off the tug?

The Witness: No, he just asked me where was the tug at, and where I, what point did I swim ashore to.

By the Court:

Q. When you stood on the bridge, did you point out and show him where the tug was?

A. Yes.

Q. When the fire started?

A. Yes.

Q. And also where it was when you jumped off? You showed him that, did you?

A. Yes.

Q. And you showed him the right places, did you?

A. Yes.

The Court: It doesn't make a bit of difference.

Mr. Byrne: May I confer with Mr. von Ludwig and Mr. Freedman?

(Discussion off the record.)

Mr. Byrne: The gentlemen here were explaining something that confused me.

The Court: Yes.

By Mr. Byrne:

Q. Mr. Harrington, this mark here on C-25 is where you jumped off the tug?

A. No, that is where I saw the fire at, sir.

Q. Now, be careful, I want it to be clear.

The Court: Well, the only thing he is called for, the only object for his being recalled is to testify that Von Ludwig's information that he gave him was correct. It doesn't matter whether he remembers now or has it straight or not. I don't think it makes a bit of difference. It is just supporting Von Ludwig's testimony.

Mr. Byrne: All right.

[fol. 249] By Mr. Byrne:

Q. Mr. Harrington, can you tell us how far it is from the place that you marked on C-24 down to the Penrose Ferry Bridge? Do you know?

A. No, I don't know that, sir, how far it is down to the Penrose Ferry Bridge.

Mr. Byrne: I don't think I have any other questions.

Redirect examination.

By Mr. Freedman:

Q. Let me ask you this one question, Mr. Harrington: After you came out of the galley you went back to the engineroom. That was aft of the galley, is that correct?

A. Correct.

Q. Now, what side did you come down on?

A. Come down on the port side.

Q. That was the side on which the barge was moored?

A. That's right.

Q. Was there any fire between the tug and the barge that you could see as you came down?

A. No, there was no fire.

SAMUEL S. NORCROSS, III, having been duly sworn, was examined and testified as follows:

Direct examination.

By Mr. Byrne:

Q. Mr. Norcross, where do you live?

A. 632 Erie Street, Camden.

Q. By whom were you employed on November 18, 1952, sir?

A. Gulf Oil Corporation.

Q. Is that at the plant along the Schuylkill River near the Penrose Ferry Bridge?

A. Yes, sir, the Philadelphia refinery.

Q. On the evening of November 18, 1952 were you at that plant, and, if so, at what point of the plant?

A. I was working in 22 pump house.

Q. Is that above, by that I mean upstream or downstream, from the Penrose Ferry Bridge?

A. Downstream.

Q. Can you refer to this map, Mr. Norcross (Claimant's Exhibit 21) and find the place where you were working?

[fol. 250] A. Where it says pump house, that is No. 22 pump house (indicating).

Mr. Byrne: Shall we mark that for you, sir?

The Court: Yes.

The Witness: That is building No. 115, but it is known as 22 pump house.

By Mr. Byrne:

Q. Will you just put a red circle there where you were working, Mr. Norcross?

Thank you. Now, Mr. Norcross, were you in the building or where at the time?

A. At the time of the——

Q. Excuse me, strike the question.

Was your attention attracted to anything unusual on the evening of the 18th of November, 1952?

A. Yes, sir.

Q. Where were you at that time?

A. On the top of tank No. 305.

The Court: Let me have the map. Did you put a mark on that?

Mr. Byrne: Yes, a red circle, sir.

By Mr. Byrne:

Q. Tank 305 is how large, how high?

A. Ten foot.

Q. What attracted your attention?

A. A glow in the sky.

Q. Had there been any other noise or anything before that time, that you heard?

A. No, sir.

Q. When you saw the glow in the sky, Mr. Norcross, what did you do?

A. I descended from the tank, went to the receiving house of 2 and 3 still, which is adjacent to 305 tank, informed the stillman to call the boiler house, tell him to blow the fire whistle, there was a fire up the river.

Q. Then what did you do, sir?

A. I then immediately proceeded around to the foot of "E" Avenue.

Q. Will you point out on the exhibit——

Mr. Byrne: Is "E" Avenue perfectly plain here, Judge Kirkpatrick?

The Court: I haven't located it yet.

Mr. Byrne: Would you point out to the Judge where "E" Avenue is, Mr. Norcross?

The Court: There is where you were?

The Witness: That is the tank. This is "E" Avenue (indicating).

The Court: All right, I see it now.

Mr. Byrne: Can you follow that, Mr. Freedman?

[fol. 251] The Court: It is right along those tanks.

By Mr. Byrne:

Q. When you got to the foot of "E" Avenue, Mr. Norcross, what did you do?

A. I proceeded out on the barge "Delaware" which was moored at our dock.

Q. At that time, Mr. Norcross, could you see the flames?

A. Yes, sir.

Q. How close did they approach where you were on the stream, in an upstream-downstream direction?

A. Approximately within 100 feet of the upstream side of the Penrose Ferry Bridge.

Q. In other words, within 100 feet of the Penrose Ferry Bridge.

Mr. Freedman: Wait a minute, of the upstream side.

Mr. Byrne: Yes, of the upstream.

Mr. Freedman: There is a big difference.

By Mr. Byrne:

Q. Mr. Norcross, were you able to see where the flames were across the river?

A. To a certain extent:

By the Court:

Q. You were yourself upstream of the Penrose Ferry Bridge, weren't you?

A. No, sir, I was below the Penrose Ferry Bridge.

Q. You were below it?

A. On the corner on the scow "Delaware."

Q. I must confess I am confused now.

A. This is the New Penrose Ferry Bridge, Your Honor, not the old one. The old one is gone.

Q. Oh, I see what you mean. They weren't in the same place?

A. No. The New Penrose Ferry Bridge is upstream from the old location.

Mr. Byrne: Did Your Honor find the scow "Delaware"?

The Court: No, I haven't found the scow "Delaware".

Mr. Byrne: I think it is that (indicating).

Mr. Freedman: That is that captive bridge, isn't it?

The Witness: The captive barge.

The Court: Well, this is upstream, this way (indicating)?

Mr. Byrne: That is right. And this witness said he was then downstream.

The Court: From the Penrose Ferry Bridge, the old one, which is—

[fol. 252] Mr. Byrne: No, no, from the new one, sir.

The Court: Here is the new one?

Mr. Byrne: No, sir.

The Court: Oh, that is the old one?

Mr. Byrne: That is the old one. This is the new one (indicating).

The Court: All right, I will write "New" on it.

By the Court:

Q. Then the flames, you say, extended to 100 feet upstream of the old Penrose—

A. The new one.

Q. The new bridge?

A. All references are made to the new Penrose Ferry Bridge.

The Court: All right.

By Mr. Byrne:

Q. As a matter of fact, at the time this happened the old bridge was down and demolished, was it not?

A. Completely gone.

Mr. Byrne: You see, the map is old, Judge Kirkpatrick.

The Court: I see.

By the Court:

Q. Was the new bridge finished?

A. Yes, sir.

Q. In operation?

A. Yes, sir.

Q. Then you were quite close to the new bridge, weren't you?

A. Yes, sir.

Q. Downstream of it.

A. Correct.

Q. So that maybe the fire extended to a point not more than a couple of hundred feet from where you actually were?

A. Approximately, yes, sir.

By Mr. Byrne:

Q. How close did it approach to the bank on which you were, Mr. Norcross?

A. It never came closer to the Gulf side of the Schuylkill River than midchannel.

Q. Did you at any time go further upstream than that captive barge that night?

A. Yes, sir.

Q. Where did you go?

A. I went up to the Aviation Loading Rack, right up the bulkhead.

Q. Can you point out where that is on any of these photographs? Or, if you can't find it on the photograph, on the map?

[fol. 253] The Court: One more question. On this United States survey map or plan, that is the new bridge on that, isn't it?

Mr. Byrne: I would have to look.

Mr. Freedman: Yes; that is the new bridge, the Captain tells me.

The Court: All right.

A. Approximately right here (indicating).

Mr. Freedman: Do you want to give him the red pencil?

Mr. Byrne: Yes.

The witness has made an "X" mark on the photograph C-27, and indicated that that is where he then went.

By Mr. Byrne:

Q. Now, how far is that above the Penrose Ferry Bridge, sir, approximately?

A. Approximately 500 feet.

The Court: Where did he mark it? Just point it out to me. I can see it from here.

Mr. Byrne: Here (indicating).

The Court: All right.

By Mr. Byrne:

Q. Mr. Norcross, between photograph C-24 and C-27, can you establish a marker point, let us say, that we could use? For example, any marking or anything in the water or any building?

A. Yes. Evidently this is this (indicating).

Q. Excuse me?

A. This is a full tank, and this must be the end of it.

Q. Let me ask you this question. Is this barge (indicating) this barge (indicating)?

A. Yes, sir. That is the captive barge, the "Onadaga."

Mr. Byrne: Judge Kirkpatrick, for point of reference, this man has said that this is where he went (indicating).

The Court: Yes.

Mr. Byrne: He estimates 500 feet.

The Court: Yes.

Mr. Byrne: He said this barge (indicating) is this barge (indicating).

The Court: I see.

Mr. Byrne: It will give you some perspective on the distance of the bridge.

Mr. Freedman: That is the so-called captive barge.

By Mr. Byrne:

Q. Mr. Norcross, how long have you worked as a—in the petroleum industry?

[fol. 254] A. 22 years.

Q. Has a substantial part of that been at the Girard Point refinery for Gulf?

A. All of it.

Q. All of it?

Did you ever see a similar fire on the surface of the river?

Mr. Freedman: Objection, Your Honor.

The Court: We have admitted that right along. I think that is all right, at this point in this river.

I will overrule the objection.

A. No, sir.

Mr. Byrne: You may cross-examine.

Cross examination.

By Mr. Freedman:

Q. Mr. Norcross, when you first saw the flame in the sky, the glow, you thought that it was on the premises of the Gulf Refining, did you not?

A. I didn't know.

Q. You weren't sure?

A. That's right.

Q. What is the very first thing that you did?

A. I notified the still to blow our fire whistle.

Q. And you manned the fire equipment?

A. I proceeded to the barge "Delaware". As I walked out on the barge "Delaware" I took a fire hose with me from a reel.

Q. There were other Gulf employees already doing the same thing, were there not?

A. No, sir, not where I was.

Q. Were you able to observe whether any of the other Gulf employees were manning fire equipment?

A. No, sir.

Q. But you did it the very first thing?

A. Yes, sir.

Q. Were you able to see the tug after you got to the river, Mr. Norcross?

A. Yes, sir.

Q. Can you tell how far from—at that time when you first saw her, how far the fire extended from the tug?

A. In which direction?

Q. Downstream.

Well, could you see in either direction?

Mr. Byrne: Excuse me, sir.

I don't mind one question at a time——

[fol. 255] Mr. Freedman: I will modify my question instead of qualifying it. He asked me in which direction.

By Mr. Freedman:

Q. I will say to you in any direction.

A. The fire appeared to me to be approximately one hundred feet ahead or downstream from the tug. It extended back beyond the tug. How far I do not know, as I was looking directly into the flames.

Q. You couldn't tell how far upstream it extended, could you?

A. No, sir.

Q. Now, when you say downstream, that was toward the bridge?

A. Correct.

Q. At that time you saw it, I think you said before, it was about one hundred feet upstream of the bridge, the end of the fire; is that correct?

A. Approximately.

Q. Were you able to tell at any time whether there was any smoke?

A. No, sir.

Q. Was there more smoke than flames?

Mr. Byrne: That is objected to in view of the witness' last answer.

The Court: He said he couldn't tell whether there was any. Obviously——

Mr. Freedman: I am going to follow it up in a second.

Mr. Byrne: That doesn't make it less objectionable.

The Court: Oh, it is not really objectionable. It is just a foolish question, I would say.

Mr. Freedman: I want to give him a chance to think. Let me withdraw it.

By Mr. Freedman:

Q. Do you remember testifying before the Coast Guard proceedings, before the Coast Guard in connection with this case?

A. Yes, sir.

Q. Do you remember being asked this question:

Did you notice how the fire was made up, much smoke and flame, only smoke, or only flame?

And you answered:

I would say more flame and smoke. There seemed to be very little smoke.

Did you give that answer?

A. Yes, sir.

Q. Was it correct?

A. Yes, sir.

[fol. 256]. Q. How high were the flames in relation to the tug?

A. When I first saw the tug, the pilothouse was completely enveloped in flames.

Q. Could you see the pilothouse?

A. Yes, sir.

Q. About how long did it take you to get from the point where you first saw the glow until the time you came to the river and saw the tug?

A. Thirty to forty-five seconds.

Q. Would you say it was a minute?

Mr. Byrne: I object.

The Court: No. That is all right. I will allow it.

A. No, sir.

By Mr. Freedman:

Q. Do you remember being asked this question at the Coast Guard:

How long was it before you actually saw the glow in the sky and your first clear view of the river where the fire was?

And your answer was:

Not over one minute.

Mr. Byrne: You read it wrong, Mr. Freedman.

Mr. Freedman: Then I will repeat it.

By Mr. Freedman:—

Q. How long was it before you actually saw the glow in the sky and your first clear view of the river when the fire was on?

Mr. Freedman: What did I read wrong, Mr. Byrne?

Mr. Byrne: The question didn't make sense.

Mr. Freedman: I am reading from this transcript. I am not phrasing it.

The Court: It makes sense.

Mr. Byrne: The word "before" doesn't make sense, sir. It may be an error in transcription. I don't know.

By Mr. Freedman:

Q. And you answered:

Not over one minute.

Do you remember giving that testimony?

A. No, sir.

Q. Do you deny it?

A. I do not deny it.

Q. Would you say that is not correct?

A. No, sir.

Q. Well, was it correct?

A. Yes, sir.

Mr. Byrne: Well, if Your Honor please—

Mr. Freedman: Just a minute, Mr. Byrne.

[fol. 257] By Mr. Freedman:

Q. Sir?

A. Yes, it was correct.

Q. All right.

You could clearly see the superstructure and the pilot-house and the after end of the tug when you got to the river, could you?

A. Repeat that, please.

Mr. Freedman: Will you please read it back to him?

(The last question was read by the reporter.)

A. Not the after deck.

By Mr. Freedman:

Q. Do you remember giving this testimony——

Mr. Byrne: What page?

Mr. Freedman: Page 78, question 16.

I won't read the whole answer unless you want me to, Mr. Byrne. If you want the whole answer, I will read it all.

Mr. Byrne: I object to the use of number 16 at all.

By Mr. Freedman:

Q. All right, you were asked this question:

In the light of your experience of 19 years around oil products, would you give an estimate of what that fire was?

Mr. Byrne: This is all objected to.

Mr. Freedman: I was only going to read the part that was not objectionable.

Mr. Byrne: The whole thing has to be objectionable in view of that question. I object to it.

The Court: I will sustain the objection.

By Mr. Freedman:

Q. Do you remember making this statement to the Coast Guard——

Mr. Byrne:—What is the question number?

Mr. Freedman: It is part of number 16, near the bottom, the third line from the bottom on page 78.

By Mr. Freedman:

Q. Here is the question:

I was looking into a wall of flame, and I could see the superstructure, the pilothouse and after deck where the light was, and the barge. I could see that against the tug.

Did you give that testimony?

A. Yes, sir.

Q. Was it true?

A. Yes, sir.

[fol. 258] The Court: Is it really important to this case?

Mr. Freedman: There is one thing that is very important.

The Court: As to whether he saw the after deck or didn't?

Mr. Freedman: I am coming to the point which is crucial, Your Honor.

The Court: There is no jury here. After all, the issues in this case are quite simple, and I just can't see that the amount of cross-examination is justified by the nature of the case. There is no reason for it.

Mr. Freedman: I think Your Honor may be interested in this testimony that I am trying to develop.

By Mr. Freedman:

Q. How high were the flames on the water?

A. Approximately eight inches.

Q. All around the tug?

A. All I could see.

The Court: Eight inches from the water?

The Witness: Yes, sir.

The Court: That is, they were only extending—
Oh, that is all right.

The Witness: That is the fire on the water.

The Court: What?

The Witness: That is the fire on the water.

The Court: Well, then, what did you say about being in a wall of flames? In describing the eight inches—

The Witness: That was the superstructure of the tug that was burning. That was not the flame that was on the water.

Mr. Freedman: That is the point I wanted to make.

By Mr. Freedman:

Q. Would I be correct in saying there was a blanket of flames about eight inches all around the tug?

A. Yes, sir.

Q. The only flame above that was on the tug itself?

A. Yes, sir.

The Court: That is pertinent all right.

(To the witness) How long was that after you first saw the glow in the sky that you saw the flames and saw they were only eight inches high?

The Witness: Between thirty to forty-five seconds.

By Mr. Freedman:

Q. Now, at that time, can you tell whether there was any odor in the air?

A. Only the regular odor.

Q. What would that be?

A. The natural odor from an oil refinery.

[fol. 259] Q. Like gasoline?

A. No, sir.

Q. A petroleum product odor, in other words?

A. Yes, sir, smoking.

Q. Well, is the air always heavy around the refineries?

Mr. Byrne: That is objected to.

The Court: Oh, I don't know. I don't think that is cross-examination, but I see no harm in it. I will allow it.

(To the witness) Is the air usually heavy around the refinery?

The Witness: The humidity is usually more heavy than in the city, yes, sir.

Mr. Freedman: That is all.

Redirect examination.

By Mr. Byrne:

Q. Mr. Norcross, did you see any attempts made to extinguish the fire on the tug?

A. No, sir.

LEWIS H. SHACKELFORD, having been first duly sworn, was examined and testified as follows:

Direct examination.

By Mr. Byrne:

Q. Where do you live, sir?

A. 527 Holly Road, Yeadon, Pennsylvania.

Q. Have you held any commissions in the armed forces of the United States?

A. I have.

Q. What was it, the last one?

A. Captain in the United States Coast Guard.

Q. You are now retired?

A. I am, since 12:01 A. M., January 1, 1955.

Q. Captain, in November of 1952, what was your position?

A. I was Chief of Merchant Marine Safety, United States Coast Guard, Third Coast Guard District, which comprised the ports of New York, Philadelphia, Albany, New York, and New London, Connecticut.

Q. Now, with respect to your Coast Guard activities—strike the question, please.

How long did you hold that position, Captain?

[fol. 260] A. I was in that position from the first part of September, 1945. It was either the first or second—it was the very first part of September, 1949. I said 1945, but it should be 1949, up until the time I retired.

Q. Prior to the time you assumed that position what had your experience been with the Coast Guard?

A. Prior to that I was officer in charge of Marine Inspection here in the Port of Philadelphia.

Q. For how long?

A. From April of 1942 until September, 1949, when I was promoted to the head of Marine Inspection of this District.

Prior to that I was one of the principal traveling inspectors for several months, and prior to that I was one of the inspectors of hulls here in Philadelphia. I came here in 1938, in August of 1938, from Galveston, Texas, and at Galveston, Texas, I was an inspector of hulls from 1936, December.

The Court: Is there any question about his qualifications?

Mr. Freedman: Oh, of course; I admit the Captain's qualifications.

The Court: I don't think you need go any further.

Mr. Freedman: I admit he was an officer in the Coast Guard and a qualified officer, very well respected.

The Court: And a qualified expert on port safety measures.

Mr. Byrne: Well, I will put it this way, I wanted to show the Court what other areas he had been in where refinery districts were located.

By Mr. Byrne:

Q. Captain, let me ask you a question. It will be leading so don't answer right away because Mr. Freedman may want to object, but it may save some time.

While you were with the Merchant Marine Safety Division—is that right, Captain, is that what you said?

A. Yes, sir.

Q. —of the Coast Guard, in what ports containing refinery areas did you serve?

A. Chicago, Galveston, Texas, Philadelphia and New York.

Q. Captain, you have heard a large part of the testimony in this case?

A. I have.

By the Court:

Q. You have heard all of it, haven't you?

A. No, sir, I haven't been here. I was not here on Thursday and part of Wednesday and Tuesday. I have heard part of it, a good part of it, sir.

By Mr. Byrne:

Q. As a matter of fact, Captain, at the time that this accident occurred you were Chairman of the Investigating [fol. 261] Board of the Coast Guard which investigated it, were you not?

A. I was, sir.

Q. The Board being composed of yourself, Commanders Edwards and Kelly, is that right?

A. That is correct.

Q. Captain, are you able to tell the Court anything about the fire which is the event around which this litigation turns—

Mr. Freedman: Objection.

The Court: That question as it stands is certainly not objectionable. Is he able to tell me anything about the whole thing that I want to know about, that is all. That is the question.

By Mr. Byrne:

Q. —with respect to whether it is or is not unique?

A. Yes.

Mr. Freedman: I object to it, Your Honor.

The Court: I think your objection is well taken. I don't think it makes a bit of difference whether it is unique or not. The word "unique" doesn't mean a thing. Every single accident is unique in that it is different from every other accident.

Mr. Byrne: All right, sir.

By Mr. Byrne:

Q. I will put it this way, Captain: Directing your attention to that same fire, do you know of any other fire on the navigable waters of any of the ports where you served, petroleum fires?

Mr. Freedman: Objection, Your Honor.

The Court: I will permit the Captain to answer it but I think it is totally immaterial to this issue.

A. No, I have never heard of a fire of this nature before in navigable waters.

By Mr. Byrne:

Q. Captain, in your experience do you know of any explosion—

The Court: I just don't know what the point that you are making is. I mean, everybody knows that certain petroleum products on the surface of water will take fire.

Isn't that so? There is nothing out of the ordinary about that. It happened during the war thousands of times, didn't it—hundreds of times, literally? There were many, many cases where a ship was torpedoed and men were swimming in fire all over the surface of the water.

The Witness: Yes, sir.

The Court: I mean, there is nothing unique in the world about a surface of water blazing because it has oil or gas or something of that sort on it.

[fol. 262] The Witness: But a fire of this particular nature—

The Court: Well, sure, I will agree to that.

The Witness: I never heard of any on the navigable waters.

The Court: Yes, but all we are interested in is whether it isn't perfectly well known to various laymen that oil products can blaze on the surface of water.

The Witness: That is quite true.

The Court: Sure, it is.

Mr. Byrne: If the Court please,—

The Court: I mean, I don't believe—well, go ahead.

Mr. Byrne: The question of it getting there is the crucial issue.

The Court: All right. But, as I indicated, I don't think that is an issue at all against the tug.

Go ahead.

Mr. Byrne: All right, sir.

By Mr. Byrne:

Q. Captain Shackelford, I direct your attention to the position which you occupied in 1952 with the Coast Guard and ask you whether among the duties that came under your supervision was the enforcement of the navigation regulations. Is that correct?

A. That is correct.

Q. Did that require familiarity on your part with the regulations, Captain?

A. It did.

Q. Captain, you have heard the discussion here about the—

Mr. Byrne: Does the Court have the little volume of rules?

The Court: The little book?

Mr. Byrne: That is right.

By Mr. Byrne:

Q. Captain, did you hear the discussion in this case with respect to the interpretation of Subsection H of Section 80 16?

A. I did, sir.

Q. Now, will you tell the Court briefly, Captain,—turning from that regulation first, what are the lights required to be carried on a tug pulling barges astern on a hawser and barges alongside?

Mr. Freedman: If the Court please, that is a matter of interpretation and I think it is for the Court. The regulation speaks for itself.

The Court: I would think so.

Mr. Byrne: If the Court please, it didn't speak for itself when Mr. Freedman's navigating expert was on the stand. [fol. 262] The Court: I thought I excluded it.

Mr. Freedman: Your Honor did.

Mr. Byrne: Oh, we had a day and a half of it.

The Court: Of his interpreting that regulation?

Mr. Byrne: Yes, sir.

Mr. Freedman: Your Honor didn't permit him to interpret it. Your Honor said it was for the Court.

The Court: I certainly did. Mr. Byrne, I think you are mistaken. If you want to look at the record it is all right, but I am quite sure that—

Mr. Byrne: If the Court please, may I make an offer of proof? I will do it at side bar if you wish or I will do it right from here.

Mr. Freedman: I don't care, you can do it from here. I have no fear of Captain Shackelford.

Mr. Byrne: The regulations are not entirely consistent and I wish to show by this witness that the administrative interpretation placed upon them is such as I indicated yesterday, namely, that where a scow is towed alongside, the sentence in Subsection H is not interpreted by the enforcing body to require that.

The Court: That is a different question. If he is going to testify as to the practice under that regulation,—

Mr. Byrne: Yes, he is.

The Court: —if it is long-continued enough and known to

the general public, why, that is a different proposition from what we had when Wooters was testifying, because he was only giving his own expert view of the matter. This is a different proposition.

By Mr. Byrne:

Q. Captain, let me put this question: You have heard Judge Kirkpatrick's ruling?

A. Yes, I have.

Q. In the light of Judge Kirkpatrick's ruling, are you familiar with the practice in the Port of Philadelphia with respect to the carrying of lights on scows, in November of 1952 and for any substantial period of time theretofore?

A. Yes, I am.

Q. What period of time, is your familiarity?

A. Well, it would go back from 1938 anyway.

Q. Will you tell the Court what the practice was from that point?

A. Well, from that time I know up until 1952 it was the practice on the part of a lot of them, they were in doubt as to whether this section required them to carry two white lights when coming alongside.

By the Court:

Q. Now, what did you actually do? Was anybody ever stopped from carrying the lights the way they were on the side, or did the Coast Guard people ever take any action about it?

[fol. 264] A. No, not to my knowledge, sir.

Q. And some of them did and some of them didn't, is that it?

A. That is correct. And sometime in 1952 one of the tugboat companies appeared up at the Philadelphia office for a discussion as to what was actually required by Article II. At that time some carried it and some didn't.

Q. What was the point at issue?

A. Well, whether the two white lights were required to be carried on scows when towed alongside.

Q. Whether any lights at all were required?

A. Whether there were any lights required, in view of the wording of that section.

Q. All right. Now, you had a discussion with some tugboat owners?

A. Yes, sir, there was a discussion.

Q. They wanted to be advised by the Coast Guard?

A. That is correct. And out of the discussion, as near as I can recall, we came to the conclusion that the two white lights would be required but there was a committee appointed of the Maritime Law Institute to go into this and to make recommendations for the revision of all of those inland rules, that is, that are covered in this paragraph. And as a result of that they at one time, I believe, they had adopted the rules that are used on what is called the Hudson River Rules. But I think there was some objection here and nothing ever came of it.

Q. In the course of this discussion with the tugboat owners was the question as to the height at which the lights were to be carried, did that come up, or was it assumed that if the lights were there at all they were to be eight feet high?

A. Oh, no, sir. This is the only place, if I recall, where the heights of the lights are mentioned above the water, in this particular paragraph.

Q. Well, if it applied, however, if it did apply, then it included an eight-foot elevation, didn't it?

A. If it did apply as worded here.

Q. Yes.

A. Yes.

Q. Well, was that discussed or did you make any ruling about that or give them anything to go by?

A. No, not to my knowledge, sir, it was not, other than just the way it is written in the section.

• • • • •

[fol. 265] BERNARD LEWIS, having been first duly sworn, was examined and testified as follows:

Direct examination.

By Mr. Byrne:

Q. Where do you live, sir?

A. 5863 Marlborough Avenue, Pittsburgh, Pennsylvania.

Q. What is your occupation at the present time?

A. I am president of Combustions and Explosive Research, Incorporated, in Pittsburgh.

Q. What is your educational background, sir, please?

A. I have a B. S. degree in chemical engineering from M.I.T.; a master's degree from Harvard in physical chemistry; a Ph.D. degree from Cambridge University in physical chemistry. That is my formal education.

Q. In finishing your education, sir, what have been your activities?

A. I was taking my doctor's degree in Cambridge, and I was appointed a National Research Fellow by the National Science—the National Academy of Sciences in the United States, in Washington, and I spent about two years on that at the University of Berlin in Germany.

I, from that time on, engaged in research, beginning with about 1928, on research in flames and explosions in the general field of combustions of gases, liquids and solids; as an employee of the United States Bureau of Mines in Pittsburgh in 1945-46, I became chief of the explosives in the Physical Science Division of the U. S. Bureau of Mines, with a staff of about one hundred and fifty research workers in this same field that I have just enumerated.

Q. Do you hold any honorary degrees?

A. Yes, sir, I have an honorary Doctor of Science from Cambridge University, which was awarded two years ago for my researches in the field of combustions and flame.

Mr. Freedman: I am willing to admit the qualifications of this gentleman, sir.

The Court: All right. I guess you have covered it. I am always glad to hear some brief qualifications.

Mr. Byrne: Well, sir, this man has such unusual qualifications that I would prefer to go ahead.

The Court: It is all right to go ahead, but there is no use in going into every single feature of it.

By Mr. Byrne:

Q. Doctor, have you written any books?

A. Yes, sir, I have written two standard treatises on the

subject of combustions and flames, and I have been editor of five other books on combustion.

[fol. 266] Q. Do you occupy any consulting capacity, and, if so, what?

A. Yes, I am a consultant for several government agencies, the Army, Navy, the Air Force, the National Advisory Committee for Aeronautics, and the AGARD section of the NATO organization, as well as—

Q. What is that section?

A. The AGARD. That is the Advisory Group for Aeronautical Research and Development in the combustion group, which is a part of the NATO organization.

I am a consultant for numerous industries and research institutions.

* * * * *

Q. Doctor, will you explain to the Court, please, the burning and explosive qualities of gasoline? By that, I direct your attention to the various combinations of gasoline with air which produce certain reactions.

A. Gasoline like all fuels may burn or explode within certain concentration limits. These are known as the lower and the upper inflammability limits.

Now, gasoline being a mixture of substances, defined according to certain specifications, it is clear that different gasolines have different limits. They don't vary very much, however.

As an example, for all the gasolines that I have been acquainted with—and there are very many—the lower limit is 1.2 to 1.4—1.1 to 1.4 per cent by volume in the air. If you have less than this amount of gasoline in the air by volume the mixture will not inflame or explode. From that point on, on up to from 5.5 to 7.4 per cent, depending upon the gasoline, the mixture—

Mr. Freedman: What were those numbers, please?

The Witness: 5.5 to 7.6.

Mr. Freedman: Thank you, sir.

A. (Continuing) In that range the upper explosive or inflammable limit exists.

By Mr. Byrne:

Q. Will you explain what you mean by the upper explosive limit or—

A. The upper explosive limit is a limit beyond which the gasoline will not inflame or explode. If you have more than 7.6 per cent gasoline by volume in air, that combination will not inflame by all reasonable, in fact, all even very intense sources of ignition.

By the Court:

Q. You mean explode, when you say inflame? You can set it on fire, can't you?

A. No, it will not inflame; it will not explode.

[fol. 267] Q. You mean you can't even burn it?

A. You can't even burn it in flame fashion, sir. You can burn it in the immediate vicinity by a much slower burning process, but you can't see any flame. It doesn't propagate flame when you have more than 7.6 per cent gasoline mixed with the air; it can't propagate flame under any circumstances.

Q. No, but I mean a tank of gas in an automobile can be set on fire, can't it?

A. No, it cannot at ordinary temperatures, because the concentration of gasoline at the normal temperatures that you operate your automobile in is too high to ignite that gasoline.

Q. What happens when you have an automobile crash and the whole thing gets on fire?

A. Well, then your gasoline is spilling out into the atmosphere and the gasoline will catch fire from some extraneous source not determined.

Now, I might add—

Q. Well, it will burn. That is what I am trying to get at.

A. Well, you are talking about the liquid gasoline spilling.

Q. Yes, sir.

A. Then it will form a vapor in the air above it and somewhere it will ignite. But that concentration must be between 1.5 per cent and 7.6 per cent and no more.

Now, for your information, Your Honor, if the temperature in the air drops to say zero degrees some night,

that mixture in the gasoline tank is highly explosible, because the concentration then in the tank at the temperature of that liquid gasoline has been dropped to the point where it is now explosible.

Q. Now, Doctor, will you tell the Court about the experiment that you performed?

A. When I looked at this lamp, this lamp over here,—

Q. The blue one?

A. The blue one, when I looked at that lamp first I was attracted to the intake air holes in the plate below the wick where the kerosene—

The Court: Put it up here so I can see it, will you, please?

A. (Continuing) —these holes here, you see. I was attracted to the—

By the Court:

Q. Those are the holes that go into the flame chamber?

A. Yes. This is what brings the air into the kerosene wick that allows the kerosene to burn.

[fol. 268] Q. It is the flame chamber, in other words?

A. That is right.

Q. I don't know whether that is a good expression, but—

A. That is correct. If you shut these holes off the kerosene can't burn.

Now, the size of those holes is rather important because there is a certain width of hole through which a flame cannot propagate. It is the principle of the Davy lamp, and hydrocarbons cannot pass extraordinarily large widths of holes. I have made many measurements of these for a variety of fuels and have found that they vary anywhere from a tenth of an inch to under certain conditions as much as a whole inch. The flame will not propagate through it. Now, I couldn't be sure at that time that these holes were sufficiently small to prevent the propagation of a gasoline-air flame in this particular kind of a gadget, in this particular kind of a lantern, so—

Q. Pardon me. You said from a tenth of an inch. Of course even smaller would be—

A. Oh, smaller you cannot; yes, smaller will not propagate.

Q. I just wondered why you stopped at a tenth.

A. The quenching distance is the largest distance that it will not propagate through.

Q. What is that?

A. It is the largest distance that it will not propagate through.

Q. What is that?

A. The largest hole.

Q. An inch?

A. It varies with the type of fuel and the concentration.

Q. You said it did go as high as an inch?

A. Oh, yes, it can go as high as an inch under certain conditions.

So it was proposed to test this lamp by placing it in an atmosphere of gasoline and air, lighting the kerosene lamp and just see what happened.

The experiment was carried out in such a way that it was not possible for any gases to get into this flame zone (indicating) of the kerosene lamp except through these holes, and the gases were let in by a special contrivance in which the mixture of gasoline and air was first prepared.

Mr. Freedman: When he said "these holes", may I ask the witness—

The Witness: I am talking about the intake holes.

The Court: The same holes he has been talking about.

The Witness: The same holes I have been talking about.

Mr. Freedman: On the bottom?

The Witness: This is the only place where air can get into the immediate vicinity of the kerosene flame to burn the kerosene that is vaporized at the wick.

[fol. 269] The Court: All right.

A. (Continuing) Now, you will note that there are holes up here as well. These are ventilating holes.

These experiments were carried out at the Research Institute of Temple University, under my direction. I designed the experiments and observed the experiments and I had as assistants two employees of that institute, a Mr. Charles S. Stokes and a Mr. Theron Lee, Jr.

(Discussion off the record.)

A. (Continuing) If you would like to save time, unless you wish to hear it, I will skip the method by which we prepared the gasoline.

The Court: Well, I think you can save that and Mr. Freedman may want to cross-examine on it.

Mr. Freedman: Your Honor, before he gets any further I think Your Honor ought to know whether the circumstances of his test are comparable to the circumstances as they existed at the time of this explosion or this fire.

The Court: Yes, I ought to know that. He is only talking about the method, the mechanism, what they actually did.

I want to know why you think the experiment has value in connection with this particular accident.

The Witness: Well, in this particular accident, of course I don't know myself, I wasn't there, I don't know what was on the water. From all the descriptions it must have been highly volatile material, and I have heard the word gasoline bantered about, and let us assume that it was gasoline. I therefore designed these experiments, which in every way that I could conceive would simulate the conditions that existed in the atmosphere where these lamps were on the tug, any conceivable situation.

By the Court:

Q. What burning product did you have?

A. I used Texaco High Test gasoline. I could have used nap-thas, I could have used any volatile material.

Q. They would have been about the same?

A. About the same, as far as I know.

Q. As far as their explosibility goes?

A. In other words, I want to repeat that in every respect, both as to materials, fuels, the design of experiment within the limitations that were at my command, within the materials that were at my command, I designed these experiments to simulate the conditions that existed there.

Now I will skip how we made up the mixtures, because that may come in cross-examination. But I made up three different mixtures, one—

Mr. Freedman: Three different mixtures?

[fol. 270] The Witness: Three different mixtures, one that was near the lower limit of inflammability. That is to say, it contained just enough to provide a flame that would propagate in the tube, and I obtained a tube and allowed the mixture to pass through this tube, or into this tube first, before carrying out the experiment.

I lit a match and ignited the gasoline-air mixture in this tube, and I observed the flame pass down these tubes. The color of that flame was blue, which was an indication of a lean mixture. It gives out a blue color.

We then proceeded to allow this mixture, still passing through this conveyance system, into the system of the lamp, and to allow the lamp to take up what would normally be ordinary conjection, just as though it were sticking out in the room. No explosion took place. All that one observed for eight minutes—this run went for eight minutes with the gasoline-air mixture passing through—one observed a diminution in the height of the flame of the kerosene lamp.

The Court: Well, the gasoline mixture did go through those holes?

The Witness: Oh, yes. It went into the chamber here (indicating).

The Court: All right.

The Witness: And all that you saw was in time, as the minutes rolled on, a diminution in the height of the kerosene flame.

I will just state the facts first.

The Court: All right.

The Witness: We then went on to a mixture, which is the most explosive mixture; a mixture that was what we call a stoichiometric amount of gasoline and air, which is about 1.65 to 1.7 per cent by volume. This mixture propagates flame at the highest rate. It ignites easiest.

We then passed that—by the way, I tested this first to see whether it was explosive. The flame propagated considerably faster, and its color was greenish-blue, which is normal for a mixture at about that stage of composition.

The same thing happened. We ran this for six and a half minutes. There was no explosion, and all that happened

was that the kerosene flame decreased in size with time. In fact, it got so small that you could scarcely see the flame any longer.

I want to add—well, I will carry on.

The next mixture was quite a rich mixture. It was twice as rich as the best mixture, or the balanced mixture. It had 3.1 per cent of gasoline by volume, and in two minutes the kerosene flame again decreased to a small size. There was no inflammation of the gasoline and air by flame. There was no flame of gasoline and air that one observed.

There was no backfiring in any of these experiments through these holes into the main-body of gasoline and air that surrounded the lamp. If it had backfired, we would have had quite an explosion. In fact, maybe the lamp would not have existed.

[fol. 271] I want to add that between each one of these experiments we cut off the gasoline and allowed only the air to pass through, and the flame of the gasoline lamp, which was now left at a very low height, because of the experiment, now came up to its normal height as a result of having cut off the gasoline. It came back to its normal height, showing that it still operates as it should operate if you just have air present.

Now, the conclusion that I have come to is that if you surround this lamp with any gasoline or high volatile fuel-oil mixture and that mixture is taken into the glass chimney where the kerosene flame—where the kerosene flame is burning, it will not propagate a flame of gasoline-air out of the burner into the surrounding atmosphere.

The Court: The gasoline will burn in the chamber?

The Witness: The gasoline burns quietly in the chamber.

Your Honor, this is the reason why the kerosene flame decreases in size. It deprives the kerosene of its normal complement of air by preferentially burning ahead of it.

By the Court:

Q. In other words, the structure of the lamp is what is responsible for the fact that the flame does not backfire or come out?

A. That is correct.

Q. Does that depend on the size of those holes or the number of them, or what do you think is the reason for that?

A. Well, it may be in part due to those holes, but actually, my original surmise is that it might be holes that would stop the flame probably is not what has happened here because the gasoline and air burned up closer to the kerosene flame or somewhere in the vicinity quietly and did not actually develop a flame. It burned as fast as it came.

Q. What do you think did happen to prevent the flame from backfiring?

A. It just didn't form a flame.

Q. Suppose that bottom plate there contained four or five holes about an inch and a half in diameter, each of them, what would have happened then?

A. I don't know.

Q. Do you think it is likely that there would have been a backfiring?

A. My guess would be from the way the experiment turned out there wouldn't be a backfiring there even. I couldn't say because I haven't carried that experiment out.

Q. I see.

A. I don't know. It could well be, sir, that the flame would propagate back quietly to the holes and stop there and then start again, you see, and a new mixture came in and propagate back.

[fol. 272] Q. Could you construct a lamp that would backfire into the atmosphere outside of the mixture, outside?

A. Could I construct a lamp?

Q. Yes.

A. Oh, yes, that would be very easy.

Q. What would you do? How would you change this lamp?

A. Instead of having a diffusion type flame, which a kerosene flame is—you see a kerosene flame has a white light because that has carbon deposited in the burning process from the fuel, that is, the kerosene.

This carbon gets very hot, quite hot, and you see by the light on the side—by the light of the white, hot carbon—

Q. All right.

Let's imagine that you are employed by a firebug who wants a lantern that he can put some place and set places on fire. What would you do to this lamp? Would you get a different type of flame?

A. In fact, I would put an open flame, or I would create—

Q. Well, it would be a kerosene flame, or would it?

A. It could be, an open flame, it could be. I would have to test the experiment.

Q. Yes.

A. Or I would rig up a very simple electronic device with an electric spark so that at a given moment an electric spark would pass—if I were a firebug—and go off whenever I wanted it to.

Q. All right.

A. That sort of ignition will always ignite gasoline-air. It is a very potent sort of ignition.

Q. The conclusion seems to be that the ordinary kerosene lamp is not dangerous, even in an explosive gasoline mixture?

A. That is what it seems to be, sir.

By the Court:

Q. I was just looking at the top of that lamp. That gets very, very hot, doesn't it?

A. It gets quite hot.

Q. If you took the top out of that, you could almost cook over that lamp, couldn't you, do some things like toast or cook eggs?

A. Oh, yes. If you exposed—if you took the top off of that.

Q. Yes. I mean that blue roof.

A. Yes. If you held a match up, for example, some distance above the kerosene flame, it would be very easy to ignite that match.

[for 273] Q. Isn't that a possible source of ignition of the surrounding gasoline in the atmosphere?

A. I am glad you mentioned that point, because as these gases, hot gases, pass up through the chimney, the metal gets warm to hot and it loses, the metal loses its heat by

conduction and convection to the outside atmosphere. These hot gases therefore that come out say through this umbrella part, I don't know the exact temperature but I do know that it is well below any temperature that an inert gas mixture can ignite an outside atmosphere of fuel and air.

Q. That answers what I had in mind. Now, another question is you stated that one possible source of ignition is an open flame with any kind of air.

A. With any kind of fuel and air.

Q. When you said air I didn't know what you meant exactly.

A. Fuel and air.

Q. An air-gas mixture, in other words?

A. That's right.

Q. An open flame with any kind of air-gas mixture is a possible source of ignition. You eliminate this lamp as an open flame, do you?

A. It is a flame but it is an enclosed flame.

Q. Well, that is what I mean.

A. Yes.

Q. Now, if you broke the glass entirely or removed it entirely you would have an open flame, wouldn't you?

A. This would be a potent source of ignition.

Q. And it would be a potent source of ignition?

A. Yes, sir.

Q. In other words, you would have to have this type of lamp to prevent—or something similar,—

A. That is right.

Q. —in the nature of a safety lamp.

Well, all right. Now, the sum and substance of your testimony as it applied to this case is that the lamp on the barge if it was in good condition, in good repair and *could* could not have caused the explosion; is that what you wanted to convey?

A. This is what the experiment would imply.

Q. Well, is that your opinion?

A. That would be my opinion, sir.

Cross-examination:

By Mr. Freedman:

Q. Doctor, you say you conducted this in the courtyard of the Temple premises outside the laboratory. How big an area was that?

[fol. 274] A. Well, there is a sort of a platform there, which is, perhaps, 50 feet long by about 25 feet wide.

Q. So you had that much open air to work in?

A. Oh, yes.

Q. What kind of a day was it?

A. It was a normal day, not rainy.

Q. I mean, do you remember the temperature, at least approximately?

A. Well, it was last Wednesday or—no, it was last Thursday, last Thursday, October 26. It was a day on which I had my overcoat on. I did not take the temperature of the outside atmosphere.

Q. You don't remember what the temperature was on that day?

A. Oh, it might have been 55, or thereabouts.

Q. I see.

A. Or 58.

Q. I assume that you supervised personally or did everything in connection with this experiment.

• Now, what equipment did you use? I know you used this lamp.

A. Yes. In addition to this lamp, I used two air bottles.

Q. Air bottles?

A. Yes, large steel cylinders with compressed air.

The Court: Air bottles, did you call them?

The Witness: Air bottles, yes, sir. This was the source of the air, because you have to force air through these tubes to get it into the equipment.

By Mr. Freedman:

Q. Did you get it—what equipment are you talking about, Doctor?

A. The equipment which comprises the lamp and its housing.

In other words, in order to get air to enter into an enclosure and flow through, you have to push it through.

Q. Well, what I am trying to get clear in my mind is just what kind of equipment you used. Did you use a box or any kind of a container?

A. Where?

Q. Anywhere in connection with the experiment.

A. Well, if you would—you mean around the lamp?

Q. Yes.

A. Yes, I described that last time.

Q. Well,—

A. I will say it again.

Mr. Freedman: I don't remember seeing it in the testimony. Is it in the testimony?

The Court: It doesn't matter. It won't take long for him to say it again.

[fol. 275] The Witness: There is a cylinder 10 inches in diameter made of cellulose acetate, which is a—

By Mr. Freedman:

Q. You say a cylinder?

A. Yes, 10 inches in diameter and 24 inches high.

Q. Yes.

A. Which was placed over this lamp and into a pan containing a couple of inches of water to act as a gas seal.

Q. The water was in the pan? I think it would be well if you would demonstrate it on the board.

The Court: Yes; I think that would be a good idea.

Mr. Byrne: If the Court please, Dr. Lewis took a couple of photographs, if you would like to see them.

The Court: Yes.

Mr. Freedman: Yes, I would like to see them, too.

The Witness: This is the water (indicating).

By Mr. Freedman:

Q. Yes.

A. The outside cylinder dipped below the water level, so that any gas that you let in under this, into this space—

Q. Before we get to that, Doctor, please, this is the cylinder which you say is 10 inches in diameter (indicating). Would you mark that 10 inches?

A. (Witness marking blackboard).

Q. Now, I think you said it was 24 inches high?

A. (Witness marking blackboard).

Q. Fine.

Now, of what was this cylinder composed? Was it transparent?

A. A transparent material, a plastic material.

Q. And you set the lamp on the inside of this?

A. The lamp is set on this little, slightly elevated—

Q. A platform?

A. The lamp would be about like this, if I can draw it properly (indicating).

Q. Fine.

The Court: I missed the significance of what that arrow showed.

The Witness: This is the air (indicating). This is where I am going to lead my gas in, through a tube.

The Court: Oh.

The Witness: Underneath the water seal.

The Court: All right.

The Witness: The only gases that come into the space are the gases that I want to lead in.

[fol. 276] The Court: All right.

The Witness: They can't come in from the main atmosphere of the air.

By Mr. Freedman:

Q. I see. Was this cylinder open at the top?

This cylinder (indicating)?

Q. Yes.

A. This had a composition board placed on top of it with a hole $1\frac{1}{2}$ inches in diameter.

Q. With the hole right here (indicating). Will you mark it?

A. Yes.

Q. So that we can see where the hole is.

A. It is right there (indicating).

If you look down at it, it looks like this (indicating).

Q. I see.

Now, then I think you took these gases and you composed a certain mixture, a minimum mixture?

(To the Court) Did Your Honor say that you would prefer that I didn't examine into how he arrived at that mixture?

The Court: If you think it is important, you do what you want. I didn't think it would make much difference, because I probably wouldn't understand it anyhow.

By Mr. Freedman:

Q. Let me ask you this, Doctor. Can you briefly state how you arrived or tested to determine what mixture was in the containers? Can you do that briefly?

A. Yes, very briefly. There were two streams of air. One stream of air passed through a container and bubbled through gasoline, liquid gasoline. The liquid gasoline was maintained at the temperature of ice by surrounding it with a large amount of ice. This then fixes the amount of gasoline that can come off with the air that is bubbling through it. The air is saturated with this gasoline.

Q. Are you talking about——

Mr. Byrne: Please don't interrupt the witness.

The Court: If he wants to clarify something, that is all right.

By Mr. Freedman:

Q. Are you talking about the air which is in this cylinder?

A. No, I am not.

Q. That is what I wanted to get clear.

A. I have not pushed it through the cylinder.

Q. Then I don't quite understand. Will you describe the other apparatus you are talking about?

A. All right.

[fol. 277] Q. Maybe we can get something to rub that off the board.

A. (Witness marking on blackboard) Air entered the gasoline—

Q. This bottle you have here is the container which held the gas that you subsequently put into the experiment?

A. Gasoline.

Q. And all of these circles you have here represent what?

A. Ice.

Q. Ice; I see. Very well, will you proceed, please, now?

A. The air was passed through this tube and entered the gasoline below the surface of the gasoline liquid.

Q. Yes.

A. And bubbles of air passed through. In passing through the gasoline the bubbles were saturated with gasoline vapor at the temperature I kept this gasoline at. Therefore, from my tables I know how much gasoline is in the air, what percentage of the air is composed of gasoline vapor.

Q. What temperature did you use, Doctor?

A. Ice. This is 32 degrees Fahrenheit.

Q. I see. Go ahead.

A. This air-laden gasoline—or gasoline-laden air, rather, passes out of this container—

Q. For the record, that is the lower tube, coming out of the container. Let's mark this container "A." Will you please do that, Doctor?

A. (Witness marking blackboard.)

Q. Fine. Thank you.

A. Not the lower tube. It is the upper tube. The gasoline-air goes out of the upper tube.

Q. This is higher than this one, isn't it (indicating)?

A. Let's not confuse that. Let's put these on the same level.

Q. Doesn't that—

A. The gasoline-air leaves the vessel through the tube that is not dipping into the liquid gasoline.

Q. That is fine. Now we know which one you are talking about.

A. It leaves, and I know quite well what percentage of that air is gasoline.

Q. I see.

A. Now, in order to—now, this amount of gasoline-air is far too much to put through here. It is not explosive. If you try to burn it, it won't burn. I have to dilute it down.

This is the reason for the second stream of air. I now bring into this stream of air another stream of air, a measured amount, so that the resulting stream at the confluents of the two streams is now what I want it to be in terms of the percentage of gasoline.

[fol. 278] Q. Will you put a "B" at that juncture, so that we can identify it?

A. Here (indicating)?

Q. No, at the juncture, right here, right down here (indicating).

A. (Witness marking on blackboard.)

Q. Go ahead, Doctor.

A. Now, this gasoline-air mixture contains—

Q. Let me make sure that I understand you. The air you are talking about came from up here (indicating)?

A. It is measured.

Q. Will you mark that air at the top, a-i-r?

A. (Witness marking on blackboard.)

Q. Thank you.

A. Both streams of air were metered by calibrated meters, flow meters, so that I now know not only how much gas I have leaving out of this in units, each second or each minute, but I also know how much gasoline is in it.

Before I carried out this test, I ascertained for myself, or convinced myself, that this mixture was explosive. The way I do that is to take the issuing gas out of this and let it fill a test tube. When it is full, I take the test tube off there and put my thumb over the open end, the hole, and hold it there and light a match, apply it to the open end of the test tube, and I see a visible flame passes down the test tube.

Q. I would like you to identify—I don't want to stop you, but please mark the end. This is the end of the tube (indicating)?

A. Yes. It is much longer.

Q. But this is where the gas comes out?

A. Yes.

Q. Will you mark this with a "T," as they enter the tube, when the gas comes out, when it is already mixed with air in what you consider the proper proportions?

A. That's right.

Now, as I stated the last time, I not only have measured these quantities of gasoline and air, but I have also, by visual observation of the color of the flame, and its speed of propagation from my experience, can testify that this corresponded more or less to what I actually measured here.

Q. Now, you measured—will you tell us what way you measured the gas?

A. These—both of these air streams were measured with a calibrated flow meter.

Now, there are various kinds of flow meters. These were the rotometer type.

Q. Now, at any time, did you attempt to use a regular meter to test the combustibility of the gas?

A. Well, I tested it, as I said; by—

Q. I know what you said before, but did you use a regular meter which is designed for that very purpose?

A. That is not necessary.

[fol. 279] Q. You didn't use it, did you? I am trying to find out what you did.

A. No: What kind of a meter do you have in mind?

Q. Aren't you familiar with meters?

A. I am familiar with a lot of meters.

Q. There are meters which test the combustibility of gases under these circumstances?

A. There are meters, yes, yes, that's right.

Q. But you didn't use any meters?

A. It is not necessary.

Q. Well, I am just asking you.

A. I did not.

Q. Will you please continue with the experiment?

Then you introduced this gas into your cylinder; is that correct?

A. It was far more potent than any meter is, to observe the things burning.

Q. We will leave that to the lawyers.

Now, I ask you now to continue from the point where you have now a mixture which you consider to be a proper mixture. What did you do with it after that?

A. If I take the end of this tube that contains the mixture, the mixture I want to put in this atmosphere, I now put it in underneath the water seal, and I want it to pass into the atmosphere surrounding the lantern.

Q. When you—let's see. You have this curve with the arrow, and this is at the lower left corner of this drawing. Let's mark this drawing "B."

A. It may be the right corner.

Q. Mark this "B"; will you?

A. This here (indicating)?

Q. No, down here. This is section "B." Let's call it that. Does this curved line that you have here on the left-hand side of the drawing represent a tube?

A. It is a copper tube.

Q. A copper tube. Does that extend right into the cylinder above the level of the water?

A. It extends into the cylinder, above the level of the water.

Q. Very well. Did you pump the gas into that cylinder at any specific velocity or with any specific velocity?

A. Yes.

Q. What velocity did you use?

A. Well, there are two sets of velocities. If I may refer to my experimental notes.

Q. Yes.

A. There are three velocities. The total gas in one case was 26,070 cubic centimeters a minute. In another it was 18,070 cubic centimeters a minute. In two other experiments it was 10,500 cubic centimeters a minute, and in another experiment it was 8,400 cubic centimeters a minute.

[fol. 280] Q. How many experiments did you make all together?

A. I carried out five.

Q. All with the same mixture?

A. No. With three different mixtures.

Q. What were they?

A. One was on the lean side, very close to the lowest explosive limit of inflammability, the limit which in this case was 1.1 per cent. Then the stoichiometric mixture which is about—here actually 1.6 per cent, and a rich, quite a rich mixture, which is 3.1 per cent in this case.

Q. What would be the upper limits of the mixture?

A. The upper limits would be somewhere between 5.5 and 7.6.

Q. There are some gases which have a combustible level of higher than that, aren't there?

A. Other fuels?

Q. Yes. They go up to about 9.5?

A. Well, some go up to 15, and some go up to 80.

Q. I see. Now, when you introduce this gas into this cylinder, what is in the cylinder—

A. Air.

Q. —before that? Just plain air?

A. Yes.

Q. There was an opening at the top about $1\frac{1}{2}$ inches—a hole with a $1\frac{1}{2}$ inch diameter?

A. Yes.

Q. That was not covered at any time, was it?

A. No. I might mention that this hole was so designed at the top that it could offer no resistance to the flow of gas through it. The pressure drop would be negligibly small. This hole was calculated.

Q. You mean—well, wouldn't any air come through that hole?

A. No, no, because it is a very steady flow of gas out of the hole.

Q. What kind of a platform did you have at the top? Was it sealed or what was it?

A. It was just like—like on the cylinder.

Q. What was it, cardboard?

A. A fairly heavy piece of composition board, about $\frac{3}{8}$ inch to a half inch thick, so that it lay quite snugly onto it.

Q. At any time did you measure the concentration of the gas inside the cylinder?

A. No.

Q. Well, now, when you pumped this mixture of gas into the cylinder, you were diluting the gas with the air which was already in the cylinder; were you not?

A. At first.

[fol. 281] Q. So that at that point you would have a mixture which was less than the amount in the mixture you started out with; that you considered to be a combustible mixture?

A. No.

Q. Well, when you dilute with air, don't you reduce the concentration?

A. No.

Q. Doesn't that lower—if that reduces to the point where it is lower than the combustion level, can it not reduce to the point where it is lower than the combustion level if you get enough air?

A. Some of these mixtures might, but not all of them.

The Court: Some of these what?

The Witness: Some of these mixtures.

The Court: Oh, mixtures.

The Witness: That I put in.

By Mr. Freedman:

Q. Which mixtures?

A. Particularly the lean one, the 1.1 per cent, and possibly the 1.6 per cent, but not for all time.

Q. Doctor, you have got to have air to keep that light burning in the lamp, don't you?

A. The light?

Q. The light in the kerosene lamp?

A. Yes.

Q. You have got to have air.

Now, did you say before that the air—that no air came through the top at all?

A. Right.

Q. Where did you get your air from, once you started to conduct your experiment, to continue the flame, or to carry on your flame in the lamp?

A. They came out of the two air bottles that I mentioned, the pressure cylinders.

Q. Well, that was already contained in your mixture, was it not?

A. That is what is furnishing the air.

Q. In other words, you had a mixture of gas, and you are saying that the air came along with that mixture?

A. May I repeat? You have a bottle of air here. You have a bottle of air here (indicating).

Q. Yes.

A. This air is furnishing—this bottle is furnishing air into this primary stream. That is the stream that passes through the gasoline liquid.

I have another bottle of air here, which is furnishing the air for the secondary stream which joins the full stream after it leaves the gasoline bottle.

These two cylinders under pressure are the sources of my air that passed into this.

[fol. 282] The Court: But all he was asking is whether all the air that goes in there is mixed with gasoline.

The Witness: Oh, yes. All the air that goes in is mixed with gasoline. There is no other air that enters the cylinder.

By Mr. Freedman:

Q. And that would tend to create a uniform flame, would it not, Doctor, in the lamp?

A. What would tend?

Mr. Freedman: Strike it out, I think that is argument.

By Mr. Freedman:

Q. Doctor, did you ever measure the heat which came out of this lamp, this lamp that is in evidence, after you built the fire or lighted the fire on the wick?

A. Where?

Q. At the top. Say at the top of the chimney where the judge was just referring to before.

A. Do you mean the temperature of the metal or the temperature of the gas coming out?

Q. The temperature of the air coming out.

A. No, I never measured that temperature.

Q. You did say, Doctor, that the air would come out of this chimney at the top, did you not?

A. The products of combustion would come out.

Q. Whatever it was. But that would be the heated air coming out, isn't that correct?

A. That is correct.

Q. Now, through these holes also—and I refer now to the holes which are just above the glass globe—they are for the purpose of drawing in air, aren't they?

A. Yes.

Q. Now, if the air in the immediate area is contaminated with gasoline, or let's say vapor-laden with gasoline, that air would go in here, would it not?

A. It would.

Q. Wouldn't that have a tendency to ignite once it got into the chamber?

A. No.

Q. What would happen to that air?

A. That would rise up. The purpose of taking in that air is to cool the gases down.

Q. I understand that.

A. Yes.

Q. But are you saying, is it your testimony that whatever came into these holes where I have my pencil now—and I have my pencil, as far as the record is concerned, in one of the holes perhaps about an inch above the glass [fol. 283] globe.

The Court: Well, we called that the blue metal holes.

Mr. Freedman: The upper blue holes.

The Court: The upper blue holes.

Mr. Freedman: Yes, Your Honor.

Mr. Byrne: If the Court please, the blue holes we referred to before were in the base.

The Court: This is the third set from the bottom.

The Witness: The first set of holes above the glass globe.

The Court: Yes. The third from the bottom of all the holes. There are four sets of holes.

The Witness: Yes, sir.

By Mr. Freedman:

Q. Now, the air in the atmosphere, whether it be air or whether it be gas or a combination, goes into these holes immediately above the glass globe, does it not?

A. That is my understanding.

Q. And the lamp is designed so that if it is air it is supposed to cool the chamber above, isn't that correct?

A. Whatever goes in would cool it.

Q. I see. Now, if it is a combustible mixture and it goes in here, will it not be lighted by the flame which is immediately beneath it?

A. No, not necessarily.

Q. But it can happen, can it not?

A. I would say it never could happen.

Q. You say it is impossible?

A. Yes.

Q. Would you say that the air closer to the flame of the wick was hotter than it would be at the top?

A. Naturally.

Q. So that the air as it entered these holes, and the holes I am referring to are just immediately above the globe, when it entered those holes would be subjected to a temperature higher than that of the air or the fumes, whatever they were, coming out of the chimney at the top?

A. No, not necessarily. You see, when the air or atmosphere goes into those holes it mixes with the hot air coming up from the lower part of the chamber. The temperature that results from that mixture is determined by the amount of gas which enters these upper holes and the amount of gas which mixes with it.

Q. Suppose the temperature is right, suppose the mixture of the gas is right, will you have a flame up there?

A. I don't believe the temperature is high enough to do that.

Q. Did you ever test it out?

A. No.

[fol. 284] Q. You don't know, then, what the temperature is inside the globe or at the top where it comes out of the chimney?

A. I have made estimates of it.

Q. Have you made any experiments?

A. No.

The Court: Let me hear Mr. Freedman's question, one or two questions ago.

(The proceedings were read by the reporter.)

The Court: When you spoke of "up there" were you talking about this row of holes? What did you mean by "up there"?

Mr. Freedman: The chimney at the top, coming out of the chimney.

The Court: Under the umbrella?

Mr. Freedman: Yes, Your Honor.

The Court: All right.

By Mr. Freedman:

Q. Now, you carried on how many experiments, Doctor?

A. I said five.

Q. And I think you told us about three the other day?

A. No, I didn't.

Q. Did you tell us about all five?

A. All five.

Q. And all five of your experiments were successful from your point of view, I take it?

A. What do you mean by my point of view?

Q. To support—

A. I have no point of view.

Q. To support your theory.

Mr. Byrne: That is not proper.

A. I had no—

Mr. Byrne: I object to it, Mr. Freedman.

The Court: It is perfectly proper. Go ahead.

The Witness: If you want to ask the question—

By Mr. Freedman:

Q. Did you understand the question, Doctor?

A. I understood the question, but I had no theory nor anything to support.

Q. You have no theory now either?

A. I now have a theory.

Q. Well, that is what I am asking about.

A. The theory developed after the experiments.

Q. Was the mixture in the——

Mr. Freedman: Strike it out. I think that is argument. I don't want to get into any argument.

By Mr. Freedman:

[fol. 285] Q. Doctor, when you observed the flame in all five experiments, I think you said that there was a flame in greater or lesser size, is that correct, burning on the wick?

A. Yes, that is right.

Q. Burning quietly?

A. That is correct.

Q. And that is what you saw?

A. Yes.

Q. Now, there was no flash-back?

A. No.

Q. Now, Doctor, if the gas was of a sufficient mixture or of a proper mixture, combustible mixture, isn't it true that as soon as the gas hit the wick and became ignited it would flash back at least a certain distance?

A. It would only flash back to a point where it met the oncoming stream that was at least equal to its velocity of flashback.

Q. But here it didn't flash back at all, you said?

A. I said it didn't flash back through the holes into the outer atmosphere.

Q. Oh, you said it only burned on the wick now. Are you going to change that?

A. Oh, no. I beg your pardon.

Mr. Byrne: That is objected to.

By Mr. Freedman:

Q. Do you want to change that?

Mr. Byrne: That is objected to.

A. I have nothing to change.

By Mr. Freedman:

Q. Well, is it your testimony that you have said that it did burn any place other than the wick?

A. I said previously that I was not close enough to the lamp to observe where the flames of gasoline and air were. I don't know where they were.

Q. You did see the burning on the wick, is that correct?

A. Yes, I did because that is a nice white light.

Q. But you didn't see it burning any place else, is that correct?

A. No, I did not.

Q. Now, if there was a flashback, isn't it true, Doctor, that you would have seen the flame from the wick at least down to these holes, these lower blue holes? Isn't that true?

A. No, that is not true.

Q. You saw the flame of the wick clearly enough, did you not?

A. Yes. That is a white light.

Q. Are you saying that you would not be able to see any flame which extended from that flame down below to an undetermined point?

A. Not at my vantage point. The reason for that is—

Q. Please don't—

[fol. 286] Mr. Byrne: Mr. Freedman, please let him finish his answer.

A. (Continuing) One doesn't get any closer to an experiment where there is a hazard in one's mind than one has to.

By Mr. Freedman:

Q. But your testimony is that you could see the light but you couldn't see whether there was any flame extending from that light to a point either below or above?

A. That is what I said.

Q. That is what I thought you said.

Doctor, let me ask you this, if there was no flame between

the wick or below the wick, then there couldn't be any flashback, is that correct?

A. It is quite clear that if the flame didn't extend down to the holes there couldn't be a flashback.

Q. Right. And if there was no flashback under these circumstances wouldn't that be evidence of the fact that the mixture which was being fed into the cylinder wasn't a combustible mixture?

A. No, not at all.

Q. If it was combustible it would flash back, would it not?

A. No.

Q. Doctor, would you recommend this lamp in a refinery or in any other place where inflammable petroleum vapors are found?

Mr. Byrne: Oh, I don't think that is—

By Mr. Freedman:

Q. When I say "this lamp" I mean this lamp which is in evidence (indicating Petitioner's Exhibit 20).

Mr. Byrne: I don't think that is a proper question.

The Court: Oh, I think that is a very good question.

Mr. Byrne: All right.

The Witness: Would I recommend this?

Mr. Freedman: Yes.

The Witness: For what purpose?

The Court: Oh, for illumination at night; for the men to carry around to see where they are going.

The Witness: I certainly wouldn't recommend a lamp that wasn't listed under the codes.

The Court: Under what?

The Witness: Under the codes, under the proper codes, a safety lamp.

The Court: All right. We understand that, but that isn't quite an answer. Would you if you were asked by the management of the refinery whether in your opinion it would be perfectly safe for the men to use these lamps all around the refinery for whatever purposes they wanted, would you say it would be?

[fol. 287] The Witness: I would say it would not be desirable to use a lamp of this construction, sir.

The Court: Then you wouldn't tell them it would be perfectly safe?

The Witness: Of course not.

The Court: All right.

The Witness: Men walking around a refinery and swinging a lamp are apt to break the globe. You don't use lamps of that kind.

Well, that is why one doesn't recommend lamps of this construction for general use.

The Court: But if carefully handled you think it would be perfectly safe?

The Witness: According to my experiments, if carefully handled one could walk through an explosible mixture of gasoline and air without coming to any harm.

The Court: And you could set the lamp down on a shelf or a barrel, or anything of that sort?

The Witness: According to the results of these experiments, sir.

The Court: All right.

By Mr. Freedman:

Q. Do I take it from what you just said that you are not prepared to say to the petroleum industry that if you can find a globe which is nonbreakable; such as—what is this nonbreakable glass that you have got now? You know what I am talking about, don't you? What is this—

A. I don't know.

Q. —nonbreakable glass now?

Mr. Byrne: If the Court please, I think the question is argumentative at this point and I object to it.

The Court: He hasn't finished the question.

By Mr. Freedman:

Q. If you could get a nonbreakable glass, tempered glass,—you are familiar with tempered glass, aren't you, Doctor?

A. Yes, there is a certain thing as tempered glass, yes.

Q. Don't you know what tempered glass is?

A. I know something about tempered glass.

Q. And you know it is nonbreakable?

A. I wouldn't say that.

Q. It is represented to be nonbreakable, isn't it?

A. Nonbreakable against what? Against a hammer or against temperature changes?

Q. Did you ever have any experience with tempered glass?

A. No, I have never handled tempered glass.

Q. Then—

A. Of my own knowledge I don't know any of the properties of tempered glass.

[fol. 288] Q. Then you can't say that you can't break it even with a hammer, isn't that true?

A. I don't know anything about tempered glass.

By the Court:

Q. Well, all ~~we~~ want you to do is to assume there is glass that will withstand all ordinary shocks, dropping, hitting against things and that sort of thing.

The Court: That is what you want?

Mr. Freedman: Yes, Your Honor.

The Court: Something similar to that.

By Mr. Freedman:

Q. Assuming that we can get an unbreakable globe in this lantern, would you recommend it to the refineries as safe for use for all purposes, for illumination and for inspection of various—

The Court: Well, he says he wouldn't recommend it.

A. I would not recommend this lamp for that kind of use. And you ask me a question that actually should be qualified, sir.

Mr. Byrne: You may qualify your answer to any of his questions.

Mr. Freedman: You can give any explanation you want, Doctor.

A. (Continuing) You see, there is one thing, we use safety lamps in mines. The old safety lamp was an open flame lamp with a gauze especially constructed and was deemed safe up to a point for use in mines. When the light in the lamp glowed to a certain degree due to the intake of certain fuel, the men would either get out of the mine or the alarms were sounded. Now, you don't take a lamp that isn't passed for safety work into an enclosure or into spaces for prolonged periods of time unless you have to do it. And nobody in his right mind would recommend a lamp that hadn't been passed or hadn't passed all the safety procedures and all the safety rules.

This lamp in my opinion has never passed such a test. Therefore, I can't recommend it. We would never recommend such a lamp for such use.

* * * * *

By Mr. Freedman:

Q. Now, during all five of these experiments, did you stand 30 feet or more away from your equipment where the experiment was taking place?

A. While the gases were passing through?

Q. While they were passing through.

A. While the gasoline was passing through, yes.

Q. During all five tests you were 30 feet or more away?

A. About 30 feet.

Q. Did you have anything in front of you to protect you?

A. I said I was behind a corner with a mirror focused onto the equipment. I was looking into the mirror.

[fol. 289] Q. I see. And you did that on all five experiments?

A. Yes.

Q. So that, even after you proved to yourself, after the fourth experiment, you still weren't taking any chances on the fifth, were you?

A. I don't think I need to answer that question.

Q. I think you have answered it.

A. Sir, I submit that is an unfair question to ask of a safety man.

* * * * *

. ASHER C. HERN, having been first duly sworn, was examined and testified as follows:

Direct examination.

By Mr. Byrne:

Q. Where do you live, sir?

A. 829 Foster Avenue, Drexel Hill.

Q. By whom are you employed?

A. Independent Pier Company.

Q. In what capacity?

A. Manager of the tugs.

Q. Do you hold any license—

A. Yes, I have.

Q. —in connection with navigation?

A. I have a master's license of bays and rivers, first class pilot's license, Delaware Bay and River; chief mate of the Atlantic Coast between Cape Henry and Sandy Hook.

Q. How long have you worked in the Port of Philadelphia?

A. 43 years.

Q. What sort of work, sir?

A. In towing, mostly all towing. I spent two years of my time on ships.

Q. Are you familiar with the towing of barges and scows in the Port of Philadelphia?

A. Yes, sir, I have had quite a number of years experience at it, yes.

Q. In addition to the operations—strike the question. What is the business of Independent Pier Company? What does it do?

A. Well, we tow barges and lighters and ships, dock and undock ships.

Q. With respect to barges, do you have a fleet of your own?

A. Yes, we have a fleet, what we call deck lighters and house lighters.

Q. Are you familiar with the other lighters and barges in the Port of Philadelphia?

A. Yes, sir, I have had some experience on them.

[fol. 290] Q. Do you see them in operation?

A. Yes, my office is on the end of the dock, so I have a clear vision so I can see them quite often.

Q. Are you familiar enough to tell the Court the practice with respect to the carrying of lights on scows and barges in the Port of Philadelphia, as to what type of light were carried in November of 1952?

Mr. Freedman: We have a regulation which governs that situation, and I object to the question.

The Court: Oh, I will take it subject to your objection.

By Mr. Byrne:

Q. Do you have the question, sir?

A. Yes. Am I allowed to go on?

The Court: Yes, that's right, answer the question.

By Mr. Byrne:

Q. What was that practice in November of 1952, sir?

A. Well, the practice is that they carried a lantern on each end of the scow. That is, if they have one. If they have two scows, they carry two, one on each end.

Q. Captain Hearn, where was that placed?

A. It is, if they have—if they have it towing alongside, it is placed on the offshore corner of the tow.

The Court: A single lantern?

The Witness: A single lantern, yes, sir.

By Mr. Byrne:

Q. Now, where on the corner is it placed? What supports the lantern?

A. Well, in my experience, we lashed to the bit. You see, they have a bit on the corner of the scows.

Mr. Freedman: If the Court please, if the man is talking about what he did, I object to it.

The Court: Yes, I think that is purely objectionable.

By Mr. Byrne:

Q. Captain, we want the general practice with respect to just where on these lighters in your experience these lanterns are placed.

A. On the corner.

Q. How high up?

A. Placed them on the deck.

Q. Now, Captain, what type lighter—what type lantern was customarily used, or what type light was customarily used in November of 1952; from your experience?

A. What type of light?

Q. Yes.

A. What type of lantern?

Q. Well, was it a lantern?

[fol. 291] A. Yes; we used a lantern.

Q. What type of lantern? What did the lantern burn?

A. Kerosene.

Q. Were the lanterns similar or dissimilar to that one you have there?

A. Similar to the one here.

JAMES TAYLOR—Recalled.

Direct examination.

By Mr. Byrne:

Q. Captain Taylor, on the night of November 18, 1952, the testimony in this case shows that you were on the tug "Arthur N. Herron."

A. That's correct.

Q. I believe you also testified that you were standing on the starboard side of the deck immediately outside or very close to the door of the engineroom; is that right?

A. That's right, yes, sir.

The Court: Where are those photographs, please? Go ahead.

By Mr. Byrne:

Q. Now, do you know whether anyone was or was not smoking on the tug that night?

Mr. Freedman: Objection, sir.

The Court: Oh, I will overrule the objection.

A. I couldn't say, sir. I don't remember if anyone was smoking or not.

By Mr. Byrne:

Q. Captain, when this fire started, where did you first see it?

Mr. Freedman: If the Court please, he has already testified to that, sir, at some length.

The Court: It is very hard for me to remember just what he has testified to.

Mr. Byrne: I am trying to make a little continuity, Judge.

The Court: All right. I don't object as long as you don't go over the whole thing again.

Mr. Byrne: I don't intend to.

A. When I first seen the fire, it was right on the starboard side, right in my face.

Mr. Freedman: What was the last part of that answer?

The Court: Right on the starboard side, right in my face.

By Mr. Byrne:

Q. And that is the starboard side—is that what we call the Chester or Philadelphia side of the river?

[fol. 292] A. That would be the Chester side.

The Court: Would you show me on this picture? It looks like it is P-19D. Show me where you were standing. That is the starboard side on it (indicating)?

The Witness: Yes. I was right opposite this engine-room here (indicating).

The Court: That is aft, isn't it?

The Witness: Yes, this is aft.

The Court: All right.

By Mr. Byrne:

Q. Now, what did you think had happened when you saw this fire?

Mr. Freedman: Objection, sir.

The Court: I think that is all right. I think it is all right. It may have a bearing on the degree of care he exercised or didn't exercise.

A. Well, as soon as it happened, the first thought that came into my mind, I thought the Gulf Refinery had blew up. That is what I thought happened.

By Mr. Byrne:

Q. Where were you with respect to the Gulf Refinery at that time?

A. I was on the upstream—on the upper side of the Gulf Refinery at that time.

By the Court:

Q. Well, the Gulf Refinery extends a distance of what, half a mile along the river there? I mean the whole plant.

A. Well, I would say it was longer than that, judge.

Q. Not just where they were loading, but the whole plant is over half a mile, isn't it?

A. I would say so, yes.

Q. Yes, I thought so. And you were opposite part of their plant, weren't you?

A. Well, I was on the upper side, just on the upper side of the refinery.

Q. All right, because when you swam, you swam to the Gulf dock.

A. Yes, sir.

Q. You were right opposite the Gulf dock.

A. It was the Gulf dock, yes, sir.

Q. Well, that would take you—

A. More or less on the upper side.

Q. But still it was the Gulf Refinery opposite you?

A. Yes, sir; yes, sir.

Mr. Freedman: That would be on his port side as he was coming downstream.

The Court: On the port side, yes.

The Witness: Port side.

[fol. 293] By Mr. Byrne:

Q. Have you ever seen this before, the map of the Gulf Refinery which is C-21?

A. No, I have never seen it.

Q. Will you take a minute and see if you can point out to the Court—first get your bearings on it and then point out to the Court as nearly as you can recall where you were when this fire first started.

The Court: Show him where the dock is.

Mr. Byrne: Here, I am pointing to this barge.

That I believe is this barge shown on the photograph, Mr. Taylor (indicating).

Now, there may be other panoramic views. I believe that that is the same barge (indicating).

The Court: Yes.

Mr. Byrne: As shown here at the end of Avenue—is that Avenue "C" or "J"?

The Witness: That is Avenue "J".

By Mr. Byrne:

Q. Does that help to acclimate you as to approximately where you were?

A. I would say that when the fire started I was about here (indicating).

The Court: I will mark that. That is the point that we will mark "A."

The Witness: Yes.

The Court: Then the Gulf Refinery extended quite a distance above as well as below you. This is all Gulf Refinery.

The Witness: The whole refinery, yes, sir.

The Court: I will mark that point "A". That is about where it is marked on the other map.

All right.

By Mr. Byrne:

Q. Now, Captain Taylor, on which side of the river was the tug?

A. I would say it was more on the starboard side of the refinery.

The Court: That is on the Chester side?

The Witness: On the Chester side.

By Mr. Byrne:

Q. Now, would you describe for the Court how hot it was on the deck of the tug; in other words, outside the house.

Mr. Freedman: May I have the question?

The Court: How hot was it where he was standing?

It is a pretty hard question to get much out of, but we can ask him.

A. Well, it was just like a furnace. You couldn't stand out on deck that long to find out how hot it was. It was just like a large blowtorch, it seemed to me.

[fol. 294]

By Mr. Byrne:

Q. Did you have a chance to look around—

The Court: It was too hot to endure?

The Witness: Yes, sir.

By Mr. Byrne:

Q. Did you have a chance before you, as you testified, went into the engineroom, to look around at all on the tug and the surroundings, to get any sort of bearing?

Mr. Freedman: If the Court please, I object to that, if he had a chance. That is for the Court to find. He can say what he did and how long it took him.

The Court: Yes, put that way it is—it could be improved.

Mr. Byrne: All right, sir. So could the lawyer for the defendant, sir.

By Mr. Byrne:

Q. Captain Taylor, before you went into the engine room did you have an opportunity to look around and make any appraisal of the situation?

A. Before I went into the engine room?

Q. Yes.

A. No, I did not.

Q. Did you have a chance to look fore or aft at the fire?

The Court: What did you do when the thing blew up or started?

The Witness: Well, just as soon as it happened, the only thing I could have done was get in the engine room.

The Court: Immediately.

The Witness: That was all you could have done.

The Court: Well, that is what you want to know. You could not have stayed where you were?

The Witness: I could not have stayed on the deck, no, sir.

The Court: What would have happened if you had stayed on the deck?

The Witness: A man would have been burned up, you just couldn't stand the heat.

The Court: All right.

By Mr. Byrne:

Q. Now, after you got in the engine room and the doors closed, were there any effects of the fire inside the engine room?

A. Yes, sir.

Mr. Freedman: If the Court please, this has already been covered very considerably and in detail on direct examination, sir.

Mr. Byrne: Not on direct, on cross.

Mr. Freedman: It was on direct also.

The Court: I don't want to go over it all again. The trouble is I can't remember exactly what was covered.

[fol. 295] Mr. Byrne: I can tell you precisely what was covered, sir. I stopped examining this witness on direct after I felt I had proved those things which go to make

up privity and knowledge. All of the rest of this witness' testimony has been cross-examination. There has been no direct.

The Court: Even so I don't see why you can go all over it again.

Mr. Byrne: I don't intend to go all over it, sir, by no means.

The Court: Well, it is not a question of competency, it is just a question of saving time. That is all that is involved. If he has testified to a thing, regardless of whether it is direct or cross I don't want to hear him testify to it again.

Mr. Byrne: No, sir, I don't think he has.

The Court: Well, I will have to leave it to you, with the understanding that you will try to expedite it as much as you can.

Mr. Byrne: Thank you.

By Mr. Byrne:

Q. Will you describe the conditions inside the engine room, so the Court can get a clear picture of what the conditions were.

A. Well, the deckhouse was all afire and it was falling down on top of the engine and was going in the bilges. And it was awful hot in there. It was just like a furnace.

By the Court:

Q. How about smoke?

A. Yes, sir, there was quite a bit of smoke in there.

Q. Did the engine house protect you somewhat from the heat?

A. Do you mean the sides or the—

Q. Yes. When you got in the engine house you didn't have the full blast of the heat on you?

A. Well, it protected us some, but then the deck, the top deck was burning and that was falling down on top of the engine and on top of the men in there.

By Mr. Byrne:

Q. What were the sides of the engine room? What material were they constructed of?

A. The sides were steel and the top deck was wood.

Q. What effect did it have on you physically, being inside that engine room?

A. Well, it was hard to breathe and the smoke was choking the men up in there quite a bit and there was quite a bit of shock.

Q. Now, while you were in the engine room did you have an opportunity to look out at all?

A. When the engines was going astern was the only time I could see. I looked out of the after porthole.

[fol. 296] Q. On which side?

A. Both sides.

Q. Both sides. Go ahead.

A. And it seemed to me like the flames was dying out toward the stern of the tug.

Q. How about forward?

A. Well, forward it looked like to me that it was more flames forward than it was aft.

Q. Now, when you gave the order to put the engines astern, why did you do that?

A. Because it was more flames forward of the boat and I couldn't see what was ahead of me. I thought maybe if the boat continued to go ahead there could have been another tow coming up the river, maybe a gasoline barge, or maybe the tug would go against the dock of the Gulf Refinery and maybe cause a greater fire. That is the reason.

By the Court:

Q. By this time had you determined in your own mind that the Gulf Refinery had not blown up?

A. No, sir, I couldn't determine what happened because there was so much flames around I still didn't know what happened.

By Mr. Byrne:

Q. Captain Taylor, when you left the engine room will you describe to the Court the way in which you and the other men left, as best as you can recall at this time?

A. Well, the first thing before I left, this was when the flames was dying out towards the stern of the tug, so we stayed in there just as long as we could, possibly could. So I ordered the engineer to stop the engines in order for the men to get off the boat.

Q. Why was it necessary to stop the engines for the men to get off the boat?

A. Because a man couldn't very well jump off of a tug-boat with the engines going in reverse, he would be mangled in the propeller.

Q. Go ahead.

A. So then I ordered the engineer to stop the engines. So I stopped the engines myself and told everyone in the engine room to abandon ship.

Q. Now, in the act of leaving the engine room, can you describe how that was to the Court?

A. Well, I was the first one to open the hatch. I was the first one out.

Q. Where were the others?

A. They were directly behind me.

Q. How close do you mean by directly behind you?

A. Well, they was all right there. I mean, I thought they would follow me just as soon as I opened the hatch, because a man couldn't stay in that engine room another minute, he had to go some place.

[fol. 297] Q. Could you have reached out and touched all of them?

A. Yes, sir, I could.

Q. And going through the door did you pretty much go through together or—

Mr. Freedman: If the Court please—

Mr. Byrne: All right, that is leading. I am sorry.

Mr. Freedman: It is more than leading.

Mr. Byrne: I will withdraw it.

By Mr. Byrne:

Q. Tell the Court how you went through the door.

Mr. Freedman: That is objected to also. He has already testified to that quite clearly, sir. As a matter of fact, not only now, but in the other examination.

The Court: Well, I do think it is a waste of time for you to be constantly objecting on that ground, Mr. Freedman, because I can't rule on it. I don't remember everything he said. I will have to take it as it comes.

Mr. Freedman: All right, sir.

The Court: I can't rule on that because I don't want to sit here and look it up every time. There is no use expressing that particular objection. I will request Mr. Byrne to avoid repeating what was testified on direct examination or what he said before.

Now, go ahead and describe how they left the engine room.

The Witness: I went out of the engine room door as fast as I could.

The Court: How did the other men leave?

The Witness: They left just as soon as I, as soon as I went out the door. I knew they would because a man couldn't stand there another minute. I mean, that is the only thing he would have done, was come right out immediately behind me.

Q. Now, you have already told us about being on the back of the stern of the tug, and Mr. Freedman was questioning you—

May I have the photographs?

Strike my question.

Mr. Taylor, when you were testifying the other day in response to questions by Mr. Freedman, you told how you got on the back of the stern of the tug. Do you recall testifying to that?

A. Yes, sir.

Q. Do you recall testifying that other men were at the stern of the tug?

A. Yes, sir.

Q. Now, can you take this exhibit, P-5, and show us,

and show the Court, where Milan and Bugoski were at the time you went over the stern?

You may take my pen. If you can't, it is useless to try. [fol. 298] A. I don't recall exactly where they were.

Mr. Freedman: If the Court please, he has not said anything now about Milan and Bugoski.

The Court: It doesn't matter. He said he can't remember.

The Witness: I came out of this door here (indicating). I thought all of those men were behind me.

When I came out here, the only one I seen on the stern when I first came out was McGinley, the cook.

By Mr. Byrne:

Q. And he went over first?

A. Yes, sir, he went over first.

Q. Now, you were in the water and you testified that you saw someone on the stern?

Mr. Freedman: He hasn't said anything about when he was in the water that he saw anything.

Mr. Byrne: Not today. He said it the other day.

Mr. Freedman: If you want to go that, I think you ought to get out the testimony.

The Court: What is the question?

Mr. Byrne: I started out to say that he testified the other day when he was in the water he saw someone on the stern.

The Court: I see no objection to that question. He did.

Mr. Freedman: Well, Mr. Byrne is introducing, so he says now, testimony which is new and which was not developed on the prior occasion.

The Court: He hasn't yet. He is calling his attention to something he did testify to in preparation for another question.

I suggest you go ahead with your question—

Mr. Byrne: The question is, sir—

The Court: —and don't bother with so much preliminary.

By Mr. Byrne:

Q. Can you tell us who was on the stern of the tug you saw these other men? You mentioned being on the stern the other day.

The Court: He said he didn't remember. He just said he didn't remember.

Mr. Byrne: Not at this time. This is when he was in the water.

The Court: Oh, when he was in the water.

(To the witness) After you were in the water, did you see anybody on the stern?

The Witness: Yes, sir, I seen two figures right here on this hawser rack (indicating).

Can I mark that?

By Mr. Byrne:

Q. Yes, you can mark the photograph.

[fol. 299] A. They seemed to me more like they were right here.

Q. I will give you the red pencil. There is another red mark on there already.

A. How do you want me to mark this one?

Q. You better mark this one in ink.

A. I would say they were right here on this hawser rack (indicating).

Q. Two figures?

A. Yes, sir.

Q. Do you know who they were?

A. No, I don't know. No, sir, I couldn't say who they were. They could have been Milan and Bugoski, but I couldn't say exactly who they were. All I seen was two figures.

Q. At any time after the fire started, did you see Mr. Worrell?

A. No, sir, I never saw him.

Q. Now, when you were in the water, you testified the other day that one of the figures also in the water called to you?

A. Yes, sir.

Q. And you called back to him. What was your physical condition at that time, Mr. Taylor?

A. Well, I thought I was going to drown, and I was choked up with smoke, and I was just so excited I hardly knew what I was doing.

Q. Did you have a life preserver?

A. No, sir, I did not.

Q. Why not?

A. Because when I went out of the engineroom, I just didn't think about a life preserver. It was so hot in there, and I knew I could never have went back in there to get one, so I just went over without a life jacket.

Q. Now, you and McGinley, did you go ashore separately or together.

A. We went ashore together.

Q. Did McGinley have a life preserver or not?

A. McGinley had a life jacket on, yes, sir.

Q. I believe you testified that you hung on to McGinley; is that correct?

A. I hung on to his life jacket, on his back.

Q. Did you require support from the life jacket to get ashore?

A. Yes, I did. If it wasn't for McGinley, I probably would have drowned.

Q. Do you know where McGinley is now?

A. No, sir, I don't.

Q. Now, when you got ashore, to the Gulf dock, Mr. Taylor, did you see anyone try to put out the fire on the tug?

A. See what?

Q. Did anyone try to put out the fire on the tug?

A. No, sir, not as I know of.

[fol. 360] Q. Did you see any fireboat or tugboats operating there at any time?

A. No, sir.

Mr. Freedman: If the Court please, he just answered the question when he said he didn't see anyone.

The Court: That's right.

By Mr. Byrne:

Q. Did you see any tugs come up?

A. No, I never seen any.

Q. You did not?

A. I did not, no, sir.

Q. Mr. Taylor, the other day when you were testifying, reference was made to some sort of brackets for the supporting of stays for lights on the scow. Do you recall that testimony?

A. Yes, sir.

Q. I am trying to pick out, Mr. Taylor, any photographs that show any substantial portion of the scow in this case.

Mr. Freedman, if you would like to select any others, you are free to do so at this time, and I will include them in my questions.

Mr. Freedman: You go ahead. I don't want to interfere with your examination.

Mr. Byrne: All right.

By Mr. Byrne:

Q. Mr. Taylor, I have selected seven of the photographs which are exhibits in this case. I believe they are all the exhibits that show any substantial portion of the scow.

Now, do you recall your testimony last week about the support of these—the supports for the poles?

A. Yes, sir.

Q. Will you examine those photographs and see whether any of them show on this particular barge any supports for holding poles?

A. Yes, this one here, I think (indicating).

Q. What is the number written on it, sir?

A. P-3.

This here looks like it to me (indicating).

The Court: Let me see it.

The Witness: Right here (indicating), the pipe extending from the deck.

The Court: Oh, this thing here (indicating).

Mr. Byrne: Do you want to mark it?

The Court: Yes, I think we should.

By Mr. Byrne:

Q. Are there any others? Have you looked at them all?

A. Not all of them yet.

[fol. 301] The Court: I put an arrow on. Is that about right, about here (indicating)?

The Witness: Yes.

Mr. Byrne: That is on P-3.

May we have that photograph again, Judge Kirkpatrick?

By Mr. Byrne:

Q. Examine all of them and discard those that don't point out anything, if any of them do.

A. Here is another one.

Q. What is the number of it?

A. P-4.

Q. Will you take that marking pencil?

The Court: Take that pencil and make the same sort of mark that I made.

The Witness: P-19m, I guess it is, that also has a lantern support. C-6 has a lantern support. That is about all of them.

The Court: All right.

Mr. Byrne: Thank you very much.

By Mr. Byrne:

Q. Now, Mr. Taylor, at any time after this fire started, did you observe or have an opportunity to observe, the pilot house on the tug at any time after the fire started?

A. Yes, when I was on the stern, before I went overboard.

Q. At that time, in your opinion, under the conditions which existed, could anyone have gotten to that pilothouse?

A. No, sir; they could not.

Even before we went into the engine room, it was impossible for a man to get to that wheelhouse. It happened so fast, and the fire started over the boat so fast that almost instantly the wheelhouse was afire.

Q. You had rubber bumpers—did you have rubber tires, rubber bumpers, on this tug?

A. Yes, sir, I did.

Q. Were they in any particular place?

A. They ran from the—all of the way from the bow to about ten feet from the stern, side by side.

Q. Don't assume that we know where they were. Tell us where they were on the tug, unless the Court is familiar with that.

The Court: Go ahead.

A. They was hanging on the port and starboard sides of the tug.

By Mr. Byrne:

Q. Where, with respect to the deck? Where, with respect to the deck?

A. I would say they was about six inches, six to four inches from the deck, from the top of the rail on the sides.

Q. From that point up, or from that point down?

[fol. 302] A. From that point down.

Q. What happened to them?

A. At the time of the fire?

Q. Yes, at the time of the fire.

A. Well, just as soon as the fire started, all of those tires was burning, just instantly.

Mr. Freedman: May I have the last part of that answer?

The Court: As soon as the fire started, all of those tires were burning.

The Witness: All of those tires started instantly, right away, burning.

Mr. Freedman: The last part of it was what I wanted.

The Court: It started right away.

The Witness: The tires started burning right away, as far as I could see.

By Mr. Byrne:

Q. What sort of a flame did they give you, big, little, fat or short?

A. It was just hot, and very high flames.

Mr. Byrne: You may cross-examine.

Cross examination.

By Mr. Freedman:

Q. Captain, when you brought the empty scow up to the Atlantic Refining, to take the loaded barge downriver, you transferred the lanterns from the empty scow to the loaded scow. That is correct, isn't it?

A. That is correct, yes.

Q. Now, I think you testified before that the loaded scow had two and a half feet of freeboard; is that right?

A. Two and a half to three feet of freeboard.

Q. How much freeboard did your empty scow have?

A. I would say it had four to five feet of freeboard.

Q. You would say at least two feet more freeboard than the loaded scow had?

A. Yes, sir, two feet more.

Mr. Freedman: If the Court please, I am not going to go into a good bit of his testimony relating to what he did, because I think I covered that previously, so I am just going to limit my cross-examination to a few points and I will ask Your Honor to indulge me as I go through to see what I can delete.

The Court: All right.

By Mr. Freedman:

Q. Captain, your first knowledge that something was wrong was a rumbling, is that right?

A. Yes, sir. I heard that before the fire started.

Q. Sir?

A. I heard the rumbling before the—

[fol. 303] Q. Before you saw the fire?

A. Before I saw the fire.

Q. Before you saw the fire you heard a rumbling sound first and you thought that it came from the direction of the Gulf Refining Company, didn't you?

A. It seemed to be coming from that side, yes, sir.

Q. And the Gulf Refining Company was on your port side, was it not?

A. It was on the port side.

Q. And that was the same side that the barge was on?

A. The same side the barge was on, yes, sir.

Q. Now, when you were in the engine room there was so much smoke that you couldn't see anything in the engine room except possibly the man who was standing right alongside of you, isn't that correct?

A. There was quite a bit of smoke in there. All you could see was a dim figure, the figuration that men was in there.

Q. In fact, you couldn't even see the engineer who was standing only a few feet away from you, isn't that right?

A. Well, I knew it was him, but I mean—the image of him.

Q. But you couldn't see him?

A. Not too clearly, no, sir.

Q. As a matter of fact, wasn't the smoke so thick you couldn't see him at all?

A. Well, I could see the image of him but I wouldn't say I could see—

Q. How far away was he?

A. What do you mean, at all times in there?

Q. From you. When you say you saw his image, how far away was he.

A. Well, he didn't stand just in one place.

Q. When you say you saw his image, how far away from you was he?

A. I would say two or three feet.

Q. Beyond that you couldn't see anything?

A. No, sir, not too clearly.

Mr. Byrne: What was the last?

The Court: "Not too clearly."

The Witness: No, sir, not too clearly.

Mr. Byrne: Keep your voice up, please; Mr. Taylor.

By Mr. Freedman:

Q. Did you see Bugoski?

A. At different times I seen him in there.

Q. When he brushed close to you?

A. Well, I would say within two or three feet you could see him.

Q. How about Harrington?

A. Well, yes, him too.

Q. Only when he came within two or three feet of you?

A. Yes, sir.

Q. What about McGinley?

[fol. 304] A. I never seen McGinley the whole time of the fire until I went on the stern.

Q. Captain, isn't it true that you got out of the engine room because of the smoke, or at least didn't you say that you got out of the engine room because of the smoke heretofore?

A. The smoke and fire together.

Q. Do you remember testifying before the Coast Guard as follows, and I read now from the bottom of Page 20, Question 145:

Q. Would you repeat that again, why you didn't continue to maneuver, why you ordered the engines stopped?

A. There was so much smoke in the engine room you couldn't stay there another minute. I think the engineer had fell down, I am not sure. Couldn't see one another in there in the smoke. Almost had me in there. That's why I stopped the engines, in order for us to jump overboard.

Was that correct?

A. Well, I was going astern when that happened.

Q. Was that answer correct, Captain?

A. I stopped the engines in order for us to go—for the men to go overboard.

Q. Captain I will repeat that to you. I asked you a question as to why you got out of the engine room and whether it wasn't because of the smoke and so on. I will repeat the question now and I am going to ask you to listen to it carefully and you let me know whether that testimony which you gave before the Coast Guard is correct or whether you want to modify it:

Q. Would you repeat that again, why you didn't continue to maneuver, why you ordered the engines stopped?

A. There was so much smoke in the engine room you couldn't stay there another minute. I think the engineer fell down, I am not sure. Couldn't see one another in there in the smoke. Almost Had me in there. That's why I stopped the engines, in order for us to jump overboard.

Mr. Byrne: I object. That is not a contradiction, sir.

By Mr. Freedman:

Q. Was that correct?

Mr. Byrne: This is proper cross-examination if it is a contradiction.

The Court: Well, it strikes me—I don't know the point Mr. Freedman is trying to make. It is so nearly exactly what he just said.

Mr. Freedman: He says now that there were flames in the engine room and he never mentioned flames, it was the smoke.

The Court: Well, he is still correct. There was smoke in the engine room, whether there were flames or not. You are asking him whether it was correct or not. It is correct that there was smoke there. I don't see that it makes any difference.

[fol. 305] Conditions in the engine room, whatever they were, were so that you couldn't stay there?

The Witness: So you couldn't stay in there.

The Court: Yes.

By Mr. Freedman:

Q. Everything was confusion at that time, wasn't it, Captain?

A. There was a great deal of confusion, excitement, yes, sir.

Q. And that goes for you and all the other members of the crew, is that right?

A. Yes, sir, there was.

DAVIDLEE VON LUDWIG, recalled.

Direct examination.

By Mr. Freedman:

Q. Mr. Von Ludwig, you have already been sworn in this case. At my request did you perform an experiment to determine whether the lamp which is in evidence, or the

type of lamp which is in evidence, marked Deitz No. 2, could ignite petroleum fumes under circumstances comparable to those which existed at the time of the explosion in this case?

Did you make such an experiment, Mr. Von Ludwig?

A. Yes, I did.

Q. Would you state to the Court exactly what you did and what the results were?

A. May I have those two lamps, please?

Mr. Freedman: Is there a view box? I think there is a view box in one of the courtrooms.

The Court: What for?

Mr. Freedman: Some of the pictures we have, sir, are—what do you call them, 3-dimensional?

The Witness: Transparencies.

Mr. Freedman: Transparencies, and they perhaps will appear a little more distinct on the view box.

The Court: Well; go ahead but don't lose any time with it.

The Witness: I can go ahead.

Mr. Freedman: He can go ahead in the meantime.

Mr. Byrne: Will you mark those before they get confused?

The Witness: Don't worry, I'll keep them separate.

Mr. Freedman: There won't be any confusion.

The Witness: May I outline first what I considered to be the important details?

Mr. Freedman: Please do.

[fol. 306] The Witness: In the first place, in the environment of the accident I—

Mr. Byrne: Pardon me, in the environment of what?

The Witness: In the environment of the accident, the lantern was positioned in open air. It was in motion with respect to the air. The motion, relative motion, was approximately ten miles an hour, and this is derived from the fact that there was a southeast wind of four miles an hour blowing towards the barge upriver and the barge was moving downriver at an approximate speed of 5 to 6 miles an hour, giving a relative motion of 10 miles an hour.

The lantern was brought into contact with a cloud of mixed petroleum vapors; maybe gasoline was part of it.

maybe naptha, maybe kerosene, propane, heptane, pentane—a mixture of gases, not a single fuel.

Q. May I ask at this point whether all of those fumes or vapors are normally found in the area of refineries, such as the Gulf Oil Corporation?

Mr. Byrne: That is objected to.

The Court: Well, I will hear it.

A. Well, they are normally present. It is inevitable they will be present in varying percentages.

Mr. Byrne: If the court please, there is absolutely no evidence for the witness' statement as to what is inevitable.

The Court: Well, it is his opinion. He is an expert.

Mr. Byrne: Not in petroleum, sir.

The Witness: I don't know. I have been in many a petroleum refinery investigating explosions.

Mr. Byrne: Excuse me—

The Court: I will note your objection and take it subject to the objection, but I think it is all right.

Go ahead.

The Witness: The fact of the matter is that there was a mixture of fumes.

In setting up my experiment, I intended to test the exposure of a lantern to a mixture of fumes, but another important—I think a very important detail is the fact that the lantern in question had been lighted for some five or six hours, in other words, had come to its maximum equilibrium temperature.

I ran some tests of what the maximum equilibrium temperature of one of these lanterns is in open air normal operation, and if I may be permitted at this moment, I will introduce the figures.

The Court: Can you tell us what you mean by the maximum equilibrium temperature?

The Witness: What I mean is—

Mr. Byrne: What lamp did you use?

The Witness: I will explain what basis I used.

The Court: Tell me first what it means.

[fol. 307] The Witness: It means you have a flame in anything—a stove, if it is a steady flame, a reasonably steady flame, it gets a certain temperature of heating.

Then it heats to a point where the radiation in any given environment and the heat increment stabilizes——

The Court: All right.

The Witness: It get- so hot and no hotter. Do you see what I mean?

The Court: Yes, I know what you mean. I know what you mean when you say it that way.

The Witness: I am sorry. I didn't mean to say it any other way.

The Court: Go ahead.

The Witness: What I mean was that I fastened several accurate laboratory thermometers in there, one on top of the other, one inside of the top of the hood, and one almost through these small holes here (indicating).

The temperature on the top of the hood, after two hours of operation, reaches approximately 300 to 320 degrees——

Mr. Byrne: Fahrenheit or centigrade?

The Witness: I beg your pardon?

Mr. Byrne: Fahrenheit?

The Witness: Fahrenheit.

300 to 325 degrees at this point, and it stays there, no matter how long the lantern operates after that time.

The temperature of the fumes coming out of the top of a lantern at this point, the exhaust vapors, is some 400 to 450 degrees. It is a little difficult to determine exactly, because a slight movement of the bulb of the thermometer brings about a rapid change in the temperatures shown thereon.

The temperature happened to be over 800 degrees——

Mr. Byrne: Will you identify that?

The Witness: I am pointing to this first row of holes, the first point of air—that was where I could insert a mercurial thermometer.

The Court: You mean the first little holes above the glass globe?

The Witness: That's right.

Those are all Fahrenheit degrees.

The Court: All right.

The Witness: That test I ran for a total period of seven hours.

I also ran it for the purpose of determining the approximate rate of consumption of kerosene in the lamp to heat for another purpose.

In five hours the lamp consumes approximately a pint of kerosene.

Now, the reason that the type of fumes involved is important is that the ignition point of different petroleum vapors differs.

In other words, kerosene has an ignition point, a point of spontaneous ignition, not requiring an open flame, of 450 degrees.

Naptha has a temperature of 452 degrees.

Some grades of gasoline have a temperature as low as 335 degrees. It doesn't require a flame. It doesn't require a spark. It only requires that temperature if the fumes [fol. 308] are anywhere in the combustible range.

In other words, if they are mixed with air and exposed to a temperature of that nature, that sets it off. That is all that is required.

This lantern, therefore, the temperature of the exhaust fumes in this lantern is sufficient and sufficient alone, regardless of any strike-back, to set off the fumes.

Unfortunately, I didn't find that out until after I ran my experiment.

The Court: I think I asked Dr. Lewis about that very thing. I will see what he said about it.

Go ahead.

The Witness: In preparing an experiment, I attempted to take into consideration all of these factors.

I have photographs here of the set up that I used.

I made a cardboard box.

I will give a set of the photographs to the counsel, so that he can follow me.

By Mr. Freedman:

Q. Well, now, Mr. Von Ludwig, please go ahead.

A. I mean I have got duplicates and I can give a set to the Court.

Mr. Byrne: I would like to have a set, too.

The Witness: I have another set for you.

My set up is shown on this photograph here, which I suppose will need to be identified.

By Mr. Freedman:

Q. Which one?

A. This is the one. That is the first one.

Q. Is this the transparent one?

A. Yes.

Well, it is also on the straight paper.

Mr. Freedman: Will you mark these as Claimants' Exhibits?

(Three photographs were marked as Claimants' Exhibits 34, 35 and 36 for identification.)

The Court: I asked Dr. Lewis a question yesterday, and I said in looking at the top of that lamp—he said that it got quite hot, and he thought you could cook eggs over it.

The Witness: 350 degrees would certainly cook eggs.

The Court: He said so.

Now, isn't that a possible source of ignition in the surrounding gasoline in the atmosphere, I asked him. And he said, "I am glad you mentioned that point, because as these gases, hot gases, pass up through the chimney, the metal gets warm to hot, and it loses, the metal loses its heat by convexity of the outside atmosphere. These hot gases, therefore, come out, say through the umbrella—I don't know the exact temperature, but I know it is well below any [fol. 309] temperature that an inert gas mixture can ignite at in an outside atmosphere of fuel—"

Well, all right, go ahead. I thought I asked him that.

Mr. Freedman: I asked him whether he measured it, and he said no.

The Court: All right. I remembered that I talked with him about that.

Go ahead now.

The Witness: All right.

On C-34, Your Honor—that is this one (indicating)—I have a cardboard box, I believe 15 inches square by 36 inches in height.

I have a port cut in one-third of the way up, approximately 15 to 18 inches above the ground, into which I was going to blow a fog or a vapor of a mixture of the petroleum product—kerosene, naptha, and gasoline—50 per cent high-octane gasoline, 25 per cent kerosene, and 25 per cent

naptha, although the proportions have no relevancy whatsoever.

I also had to use, to prove whether it was combustible or not, a standard, very well-known explosimeter. This instrument has been available on the market for at least twenty years, and it is available in two forms, to measure the proportion or percentage of explosibility, or the direct percentage of the combustibles that are present in a given atmosphere.

There are instruments made which measure both, and instruments which measure either.

This happens to be one which I have used which measures the percentage of explosibility. There is a dial on here. This is known as an explosimeter. It is manufactured by the Mine Safety Appliance Company, and it has been available for at least twenty years.

This is the sampling tube, a steel rod, which has a few holes at the bottom of this.

This is the rubber hose used to give a reasonably tight connection between the end of that rod and instrument.

The instrument functions on a fairly well known principle. It has a heated filament of platinum in it.

The gases you are measuring are drawn over that heated filament. The heat is provided by a series of batteries in the base of this instrument. The support is known as a Wheatstone bridge.

The bulb acts as a bare circuit.

What happens is you turn on your battery to heat up the filament, and you standardize the instrument to zero. You attach an aspirator bulb to the exhaust side of the instrument which serves as a pump, and you attach any length you desire of a gas-tight hose to the—it doesn't matter whether you have it on or not, but to this sampling tube.

I will demonstrate how this instrument works. This is a lighter fluid, which is a combustible. I will put a little bit on my hand, pump the straight air through here, and to speed things up, I will pull it in this way, when I pump [fol. 310] this fume out of my hand into here, the instrument makes a reading which shows that the fumes in my hand are whatever percentage is shown on the dial, what percentage of combustibility.

If there is more of the fume in my hand, there will be more. If it is less, it will be less.

This is a standard device. There is nothing unusual about.

I used this instrument for the purpose of proving whether or not the fumes in this carton into which I was going to lower my lamp were combustible, whether they were in the explosive range.

I suspend the lantern, which had been heated by two and a half hours of prior ignition. In other words, the lantern is at its maximum equilibrium temperature.

The Court: Yes.

The Witness: I suspended it by a cord from a pulley, not shown in the photograph, over to a Marine fishing rod that I intended to lower the thing with from behind a tree.

I took the explosimeter to its maximum extension, which is approximately six feet, turned on the vacuum cleaner, which was to blow the fog of gasoline-air vapors into this box, and I started to operate the explosimeter to get my measure of explosibility.

The number on the dial got over in about five seconds to explosive, and the entire thing exploded.

The second photograph shows the fire in process.

I had set up the camera in advance and had it cocked to take a picture.

By Mr. Freedman:

Q. May we mark this?

A. This is C-35. It is already marked.

Q. I would prefer to put in evidence the transparent pictures.

A. The transparent?

The transparency shows the first puff of smoke still suspended in the air, which gives you an indication of how soon after the fire started I took the picture.

This is the first puff of smoke. It doesn't show in the high contrast picture.

After I quenched the fire with water hose that I had available, I took this photograph to show where the lamp had fallen.

That is C-36.

The fire ignited within less than five seconds from the time I turned on the vacuum cleaner.

The fire immediately flashed back. There was no question about a flash back. It shows in C-35. It flashed back in spite of the fact that there was a high velocity from the vacuum cleaner. It flashed back to the vacuum cleaner and to the burning bottle. As it shows in C-35, the bottle is still burning——

Mr. Byrne: Mr. von Ludwig——

[fol. 311] The Witness: The lantern suspended in air——

Mr. Byrne: Just a minute Mr. von Ludwig——

The Witness: All of the way back to the blower——

Mr. Byrne: Will you slow down and tell me that. What is that you are talking about?

The Witness: 35, C-35.

Mr. Byrne: Is that marked?

Mr. Freedman: All three of them are marked.

The Witness: That is C-35. It is the second of the group.

Mr. Freedman: All three of these are marked, Mr. Byrne.

The Witness: C-36 is the third of the group.

Mr. Freedman: We will conform all of these later.

The Witness: After the fire was out, I recovered the lantern and examined it.

Of course, the glass is all broke, some pieces fell out. The filler cap, as in the other lantern, blew out. The top of the hood blew almost off, which is the reason the glass didn't shatter more, because the pressure was relieved at this point, whereas in the other lantern, the top didn't come off, and, therefore, the glass blew out.

In every other instance, the lantern is substantially identical to the condition of the other lantern.

Mr. Freedman: I offer that in evidence, sir. Will you mark that as the next exhibit? This is the lantern which was used in the experiment.

The Court: All right.

(The lantern above referred to was received in evidence as Claimants' Exhibit C-37.)

The Witness: I had prepared three lanterns, all of them filled. Two of them were cold, with the intention of duplicating the test with the cold lantern, but in view of the results, I didn't see any purpose in making a further test in this direction.

The Court: All right.

Mr. Freedman: I have all three of those pictures marked for identification, sir, and I offer all three of them in evidence. Now, Your Honor has the non-transparent ones, and the other ones show up better when you put them in the view box.

The Court: I think they are all right.

Mr. Freedman: All right, sir. I was going to offer them both in evidence so Your Honor can look at them.

The Court: All right.

Mr. Freedman: I will have the non-transparent and the transparent ones conformed later.

The Court: All right.

(Claimants' Exhibits C-34, C-35 and C-36 for identification were received in evidence.)

[fol. 312] By Mr. Freedman:

Q. From your testimony, Mr. Von Ludwig, I understand correctly that the explosion or the flash took place before the lantern was even lowered into the box.

A. It did. It took place while it was suspended in open air above the box. I had intended to lower it into the box more or less with the idea of duplicating what the professor said that he had done. I didn't have an opportunity to lower it into the box. As soon as the explosive mixture reached it, it exploded.

Q. And how soon after that did you take the pictures?

A. A second, half a second. I was going the other way. I don't know.

By the Court:

Q. Was the explosion of the mixture being propelled upward?

A. Yes, sir. You see, Your Honor, this acted somewhat as

a chimney, and as there was a positive pressure introduced here from the blower from the vacuum cleaner—I am pointing to the port in the side of the box, the opening in the side of the box—that was what displaced the fume up.

Q. Have you any idea what its rate of upward movement was?

A. Well, I had calculated what the velocity of the jet coming out of the vacuum cleaner itself was, and that was approximately fifteen miles an hour. But the reason I moved the jet back from the hole on the box was to allow some additional entrainment of air to slow down to approximately eight or ten miles an hour. That was my idea. Of course, by the time I got to the top of the box it was much slower than that.

The Court: All right.

By Mr. Freedman:

Q. Now, Mr. Von Ludwig, are you able to state whether the Dietz lamp which is in evidence is recognized in the industry as an open flame lamp?

Mr. Byrne: Wait a minute. Will you just read the question?

(The last question was read by the reporter.)

Mr. Byrne: That is objected to. That is not even—

The Court: It is all right; it is the same question asked Dr. Lewis.

A. Of course it is an open flame, Your Honor. It is nothing but an open flame. The difference between it and the safety lamp is so outstanding as to be beyond misunderstanding.

Mr. Byrne: If the Court please, I think this is an irresponsible lecture in response to a very simple question. I object.

The Witness: All right, I will stop at that point.

By Mr. Freedman:

Q. Mr. Von Ludwig, will you please be good enough to tell the Court the difference, if any, between the Dietz lamp

and the safety lamp which is now in evidence? I think that is marked C-32.

Mr. Byrne: If the Court please, that is not even necessary. We can see the difference.

[fol. 313] The Court: All right, I don't think he need do that.

The Witness: Well, I won't go into too much about it.

By the Court:

Q. Tell me in just a few words what is the principal difference?

A. The principal difference is this, Your Honor. The flame in this lamp (indicating C-32) is totally enclosed in all directions.

Q. That is the safety lamp.

A. That's right. In the safety lamp it is totally confined because of the double screen on top. Furthermore, notice the mesh of the material on this hood and the arrangement of ventilation. This is all designed so that the heat generated by the flame will be quenched below any dangerous temperature level.

There is no such provision or even approximation of that in the proportions of this lamp (indicating P-20). Furthermore, in this lamp there is nothing to prevent a back draft; there is nothing to prevent ignition of gases and air going into this.

Q. That is the blue lamp?

A. In the blue lamp, the Deitz lamp.

Q. All right.

A. This is an open flame lamp. The only function of the globe here is to keep the flame from being unsteady and blowing out.

By Mr. Freedman:

Q. Is the safety lamp that is in evidence encased also on the bottom as well as on top?

A. It is encased in all directions.

Q. Would you state to the Court the purpose of the mesh or the gauze over the top of the flame in the safety lamp, please?

The Court: He just did state it.

Mr. Freedman: All right, sir. I will withdraw it. I thought perhaps a little more detail would be—

The Court: I don't need any more detail.

Mr. Freedman: All right, sir, I will withdraw it.

By Mr. Freedman:

Q. Now, are you able to state whether even the safety lamp is really safe in any area where you have inflammable petroleum vapors?

A. No, for the reason that a safety lamp may be designed for safe operation with a combustible which has an ignition point of a thousand degrees or above and be absolutely unsafe for use where the combustible ignition point is in the range of 450.

By the Court:

Q. Then the only way this tug would have been safe would have been to proceed without any lights at all?

A. No, Your Honor. There are explosion-proof lamps that are available. They are electric, however, and not kerosene.

The Court: All right.

[fol. 314] By Mr. Freedman:

Q. Do the regulations provide for lamps which would cover these situations?

Mr. Byrne: Objected to.

The Court: I think you better show me the regulations.

Mr. Freedman: Very well, sir. I will cite them in my brief. I had it in yesterday. The one I cited yesterday.

The Court: All right.

By Mr. Freedman:

Q. Mr. Von Ludwig, you testified before to a flashback in connection with your experiment.

Mr. Freedman: Did Your Honor get that testimony regarding the flashback? I didn't want to go into that any more. I want to just follow that up.

The Court: Was I awake do you mean?

Mr. Freedman: No, I meant whether he gave it in sufficient detail.

The Court: I heard it, yes.

Mr. Freedman: And there was a flashback.

The Court: Oh, yes. Don't load it up too much.

Mr. Freedman: I didn't want to get into that in any more detail if Your Honor recalls it.

The Court: Yes. He has told his story. Now, is there a lot more?

Mr. Freedman: Not too much.

The Court: All right.

By Mr. Freedman:

Q. Now, Mr. Von Ludwig, can you distinguish between different types of flashback: flashback in open area and flashback in a tube? Is there any difference?

A. Oh, a great deal of difference in velocity. I mean, the velocity of flashback in a tube, as Dr. Lewis explained, is rather slow and it depends upon the stability or the flame stability rate of propagation through the tube. It can run around a foot per minute or something of that order depending on the fuel that you are burning. But because of turbulence in the open air, the flashback rate or the flame propagation rate will become very rapid after initial ignition has occurred and it will flash back at a rate of three to five thousand feet per minute with most combustible vapors after the acceleration rate has been—or the rate of acceleration has reached its maximum.

Q. Now, Mr. Von Ludwig, you heard Dr. Lewis testify regarding the experiments which he made?

A. Yes, I did.

Q. Are you able to state whether the manner in which he made those experiments can produce or is likely to produce a flash such as what occurred in this case?

Mr. Byrne: Objected to. The witness can testify as to his experiment; if he performed Dr. Lewis' experiment he can testify to that, but anything else is incompetent.

[fol. 315] The Court: But suppose he knows something

that makes Dr. Lewis' experiment entirely worthless? Is there any objection to that?

Mr. Byrne: Well, as I understood the question that wasn't it.

The Court: Well, maybe not.

Mr. Freedman: That is it.

The Court: Well, that is what I want to know.

By the Court:

Q. You heard the whole description of Dr. Lewis' experiment. Was there anything about it that impairs its value as showing what it was designed to shew, namely, the fact that this lamp wouldn't ignite vapor?

A. Well, there are a number of things about it that were very prejudicial to the results.

In the first place, the lamp was cold whereas the lamp in the accident was hot.

In the second place, the maximum volume of flow used by the doctor in that chamber was so slow that he could never have reached a combustible level because of dilution, and if I will be permitted to I will explain exactly what that dilution is. I have calculated what it is and it is quite considerable, the dilution which is inevitable as long as that lantern didn't go out.

Now, the diameter of the cylinder was 10 inches. The height was 24 inches. (Witness diagrams on blackboard.) Using the accepted formula for the volume of a cylinder I get a volume of 1,884 cubic inches, or three thousand—this is approximate conversion—3,260 cubic centimeters.

Let's take out the space, the solid space occupied by the lamp. And for the sake of convenience we will say that this is one cubic foot, which is 1,728 cubic inches. 1,728 cubic inches is 7.48 gallons. In combusting a gallon of petroleum product, kerosene, for example, approximately 30,000 gallons of air are required.

This lantern by my test consumed a gallon of kerosene in approximately forty hours. That gives us a consumption of air for combustion purposes of 750 gallons an hour, which if I am not mistaken figures out to $12\frac{1}{2}$, approximately gallons of air a minute.

Now, assuming a static condition, that is, a static condition with respect of admission of anything else to the system, setting that lantern in the cylinder that the doctor used would set up an absolute minimum draft, regardless of the diameter of the hole on the top, just to keep the flame lit, of $12\frac{1}{2}$ gallons a minute. The capacity of the cylinder was only 7.48 gallons per minute. Therefore, the total air change in the cylinder due to the consumption requirements of the flame alone was such that the air would change in the cylinder approximately once every twenty-five to thirty seconds, a complete change, a complete displacement.

[fol. 316] Now, the doctor used several flow ratios. He used 8000 cubic centimeters a minute, for one. That figures out in the volume of the cylinder, leaving the lamp out of the system and leaving the fire out of the system, and just taking a static condition where he would just be displacing the air in the system and leaving dilution out of the question, which would slow it down, three minutes and let's say forty seconds, three minutes and forty seconds to just displace the air from the system.

Now, as he was admitting a pre-mixed gasoline-air mixture, which had its combustible concentration stabilized before he entered the system, the moment the fumes entered the system they were then diluted and they were diluted in proportion to the rate of air change in the system.

Now, as you see here, just to fill the cylinder with the fumes, without considering dilution, it would take three and three-quarter minutes, and then you introduced the rapid rate of change of air, which is due to the burning, the necessary burning of this, at no time under any circumstances of the doctor's test did he have a combustible mixture surrounding that lantern.

By the Court:

Q. Is there any other criticism you have? You have given me two.

A. Well, in the first place he never had a combustible mixture. In the second place, the lamp wasn't at the temperature which prevailed, and then in addition to that he used only a gasoline-air fume mixture, which was prejudicial

in the sense that it didn't go to the level of ignition, assuming a hot lamp, which was possible under the conditions of the fact of the accident.

The Court: All right.

By Mr. Freedman:

Q. Mr. Von Ludwig, considering the velocity with which Dr. Lewis pumped the gas into his cylinder, and the mixture to which he testified, if in fact there was a combustible mixture would it have flash-backed?

A. Well, flashback is relative. But let me say this, using this lantern here—

Q. Referring to the blue lantern, the Deitz lantern.

A. —there are several things which would have inevitably happened if—

A. (Continuing) If the mixture which came in under this level here had been any of the mixtures that the doctor testified to admitting here, had it been undiluted, any of those mixtures, and had it been sufficient in volume to completely surround just this portion of the lamp, leaving out—

Q. You are putting your hand on the lower portion?

A. Just the lower inner port, into which by reason of the draft of the lantern being lit the air was being drawn quite rapidly—

Q. All right. If it had, what?

A. If it had, the flame once ignited would have burned very close to these little holes which are ventilation holes, right above them, the same as the flame burns just above the burner port on a gas stove at home, in exactly that [Vol. 317] manner. But if that had occurred this wick in here would not have just diminished in flame, it would have been totally robbed of air and would have gone out.

The preferential oxidation which the doctor referred to, where you have a flow of adequate volume, would have extinguished completely the fire on the wick because there would have been no oxygen to support the combustion. It would have been cut off at these ventilating ports. There would have been no possibility of the flame staying on and

it would not have flashed back below the ports, perhaps, but it would have flashed back to those ports and cut off the wick from any source of air under those circumstances, under those conditions of flow.

By Mr. Freedman:

Q. Could a meter such as what you used in your test have been used in connection with the test that Dr. Lewis made?

A. Of course it could, either this meter or the one that reads in percentages.

Now, I want to make that clear. Many of these meters are made originally to determine the combustible percentage or the combustible range of methane, but they are made by the same company and by others to determine the exact combustible percentage or range of other combustible vapors.

By Mr. Freedman:

Q. Now, Mr. Von Ludwig, directing your attention to this Deitz lamp which is in evidence, assuming that this lamp came into an area infiltrated with inflammable—

Q. I want to ask about these holes which are immediately above the glass globe. Is it possible for the combustible mixture of the petroleum vapors to get into these holes while the lamp was burning say on that scow? Was it possible, and to ignite?

A. Yes, it is inevitable if the lantern is lit and there is combustible mixture around it they will go in this hole and in spite of the fact that there will be some diminution of oxygen in the air and in the lamp itself, the mixture going in entrains its own air and depending on the rate of flow at this point and the number of equilibrium factors, they will burn in there and they may burn in there and come up and burn out here (indicating).

Q. And that further will—will the burning of that gas so heat the chimney and the air coming out of the chimney?

A. Yes, of course.

Q. Now, you say, or I believe you did say, that you measured the heat just from the wick alone? That is from the flame of the wick?

A. It wasn't just that. I measured at this point, and the heat at this point is in the neighborhood of 800 degrees (indicating).

[fol. 318] Q. Above the glass globe?

A. In the chimney.

Q. Was the temperature you found there sufficient to set off the inflammable mixture of petroleum vapor?

A. Yes.

Q. Was the temperature which you found at the top of the chimney from the flame of the wick alone sufficient to ignite the combustible mixture of petroleum vapor?

A. Yes, if they include the 450-degree flash point materials.

Q. You have already testified, I believe, that these gases which you find in that area do have that level?

A. Yes.

Q. Now, Mr. von Ludwig, Judge Kirkpatrick asked Dr. Lewis yesterday whether, if a cloud of petroleum vapors were released and leveled, say, just below the ceiling of this room, he asked him what would happen to it, and I think Dr. Lewis' answer was that they wouldn't necessarily come down, unless they were forced down by a draft or something of that sort. Do you agree with his testimony?

A. I do not.

Q. You heard his testimony yesterday?

A. I did.

Q. Would you tell us—will you explain what you mean by your answer?

A. I think that anyone who has ever seen an automobile tank filled with gasoline and seen the fumes displaced at some time or other has seen the pattern of fumes falling out of the tank, and I think, almost without exception, the first motion is down. They fall. They are twice to three times as heavy as air, and they are dilated by air, which is determined by the thermal and mercurial diffusion factors. The convexity factors also enter into it, but until the dilution occurs, their motion is down. That is particularly true through cold air.

Q. Is the diffusion retarded by high humidity?

A. The rate of diffusion will be slightly retarded by high humidity, but the highest humidity, when it is in conjunction with a thermal inversion, is the main factor involved here.

Q. Mr. Byrne: With a what?

The Witness: A thermal inversion, when there is a cold surface beneath the air.

Mr. Byrne: Are you finished, sir?

The Witness: Yes, unless you want to ask me something else.

Mr. Byrne: I wanted a definition of a thermal inversion. I didn't understand what it is.

The Witness: A thermal inversion means that there is a cold surface below the air supply colder than the air. If there is a normal thermal condition, where the diffusion currents are tending to radiate upwardly, it is as defined in the weather conditions, you see. It is used mainly in conjunction with the weather.

* * * * *

[fol. 319] Cross examination.

By Mr. Byrne:

Q. Mr. Von Ludwig, you were actually spraying raw gasoline into your experiment, were you not?

A. I certainly was.

Q. You certainly were?

A. Raw gasoline, raw naptha, and raw kerosene, a mixture. It was volatilizing. Perhaps some of it was not completely volatilized. The point is that it was an explosive mixture. That is all I was concerned with.

Q. It was an explosive mixture, was it not, because you had tiny droplets surrounded by air, not that there had been what we will call an evaporation of gasoline in the air?

A. That is not so. An explosive mixture is made up of fumes. Liquid is not a part of the explosion. It is a surplus, and it will burn.

The same thing happens in an automobile engine. The liquid droplets that are still liquid in the mixture will afterward burn in the exhaust pipe. They don't participate in

the explosion in the cylinder. The only thing that participates in the cylinder is the air-fume mixture, and not the liquid.

Q. Now, this was somewhat similar to spraying a hose of raw gasoline on to an open flame, was it not?

A. It is not. It is not even approaching it. This is the lantern, and, according to Dr. Lewis, it is an enclosed flame. I sprayed it from the bottom up, the same direction he had, and by the same time it reached there, it was volatile. It had to go through the box. It wasn't raw gasoline or a liquid being sprayed on the lamp or anywhere near the lamp.

[fol. 320] OSWALD HOWARD CRAVEN, having been duly sworn, was examined and testified as follows:

Direct examination.

By Mr. Mahoney:

Q. Where do you live, Captain Craven?

A. I live in Woodbury, New Jersey.

Q. What is your complete home address?

A. 158 Reagens Boulevard.

Q. How old are you?

A. 37 years old.

Q. Are you presently employed by the American Dredging Company?

A. I am.

Q. In what capacity?

A. I am master of the tug "Arthur N. Herron."

Q. How many years have you occupied that position with the American Dredging Company?

A. I have been master of the tug "Arthur N. Herron" for about four and a half years.

Q. Were you master of that tugboat during November of 1952?

A. I was.

Q. How many years have you been employed by American Dredging Company in all?

A. It is almost five years.

Q. Has your employment with the American Dredging always been in the vicinity of Philadelphia?

A. Yes.

Q. How many years have you done harbor work?

A. I have been working around harbors in different localities for the last 25 years.

* * * * *

Q. Do you have opportunity to observe the tows of any other towing companies in the Philadelphia area in the course of your own work?

A. Yes, I do.

Q. Would you name some of the other large towing companies that you have observed frequently?

A. Warner Sand & Gravel; they operate a fleet of tugs.

Q. Perhaps I had better ask you to confine your question to companies who operate the same type of tows as American Dredging.

Mr. Freedman: He is answering.

[fol. 321] By Mr. Mahoney:

Q. Mud scows and rubbish scows.

Mr. Freedman: I object. I don't want to get into any argument at this point. I reserve my argument for the time of court.

The Witness: And you have the Reading Company; they have car floats. You have the Independent Pier Company and you have numerous companies around that have large fleets of tugs and do a lot of towing.

By Mr. Mahoney:

Q. Have you observed where and how these companies place their white lights when operating at night towing a single barge alongside?

A. It is the general practice in this harbor—

Mr. Freedman: That is objected to. Please answer the question, Captain.

The Witness: They carry the lights when towing alongside on the outboard corners on the deck.

By Mr. Mahoney:

Q. Do you recall the accident, the conflagration, in which the "Arthur N. Herron" was involved in November, 1952?

A. I do.

Q. You were not aboard the tug, of course, at that time?

A. No, I wasn't.

Q. When was the last time that you had been aboard in your capacity as Captain prior to that tragedy?

A. At approximately eighteen hours.

Q. How do you work your various tricks on that tugboat?

A. We work twelve hours on and twenty-four hours off.

Q. So you had had what, twelve hours, do you recall?

A. I came off it—

Mr. Freedman: He said he was on eighteen hours not twelve hours.

Mr. Mahoney: No. He got off eighteen hours before, I think he said. Let us clarify it with the witness.

The Witness: You work twelve hours on and were off twenty-four hours.

By Mr. Mahoney:

Q. So what twelve hours did you have, from when until when, do you recall?

A. I came off at approximately 3:30, 4:00 o'clock the morning of the accident.

Q. Did you carry the inland rules aboard your vessel, the "Arthur N. Herron", at that time?

A. Yes, we did.

Q. Where were they kept?

[fol. 322] A. You had two plate card forms in the wheelhouse, and there was a booklet copy in the after cabin, my cabin, right after the wheelhouse.

Q. Now, at the time, and I mean during November of 1952, prior to this tragedy, did you have any instructions, in other words, did the persons who were in command of the tugboat for these twelve-hour tricks have any instructions from the shore-side management of the American Dredging Company with respect to carrying lights?

Mr. Freedman: I object to that.

By Mr. Mahoney:

Q. On tows.

Mr. Freedman: Are you asking what somebody else got or what he got?

By Mr. Mahoney:

Q. That you personally know of.

A. That is right.

Mr. Freedman: What was the answer?

The Witness: We are always instructed to have our tows well lighted, and all scows at the mooring well lighted.

By Mr. Mahoney:

Q. Did you carry at that time any equipment on the "Arthur N. Herron" for use on barges for the purpose of carrying raised white lights?

A. We had rods on board to use when having hawser tows to take down the river.

Q. Would you describe these rods for us?

A. Eight-foot steel rods with an arm on it for a hanger.

Q. Where were they kept on the vessel, on the tugboat?

A. They were kept on the stern of the tug.

Q. Will you tell me where on the stern?

A. On the stern between the—it is a little gear box near the rail.

Q. Approximately how long were these rods?

A. They were eight foot long.

Q. How were these rods used?

A. They were used on each outside corner.

Q. How would you stand them up?

A. There is little pipe sockets welded to the coamings and several of our scows have wooden coamings, and there were staples driven into them.

Q. Now, in towing a single barge alongside at night—by barge, I mean a mud scow—where did you during this period of time prior to the accident carry white lights, if any place?

A. Towing alongside I carried two white lights, one on the outside corner, each outside corner.

[fol. 323] Q. Where did you carry them? Did you use the rods?

A. No, I carried them on deck.

Q. When did you use rods?

A. I used—

Mr. Freedman: Just a minute. I think it is most unfair. I think the vice is in the asking, and I object to it.

Mr. Mahoney: I will withdraw the question.

By Mr. Mahoney:

Q. Did you ever use rods in towing in any manner?

A. Used the rods when we had the scows in tiers, we was pushing them alongside or liad them on the hawser.

[fol. 324] IN THE UNITED STATES DISTRICT COURT FOR THE
EASTERN DISTRICT OF PENNSYLVANIA

No. 137 of 1953—IN ADMIRALTY

In the Matter of the Petition of AMERICAN DREDGING COMPANY, as owner of the Tug "Arthur N. Herron," for exoneration from or limitation of liability

OPINION—January 19, 1956

KIRKPATRICK, Ch. J.

On the evening of November 18, 1952, between 10:00 and 11:00 o'clock, the tug Arthur N. Herron was going down the Schuylkill River, with a tow consisting of a loaded mud scow made up on her port side. As she was passing the refinery of the Gulf Oil Company, the men on board her heard a rumbling sound and, without other warning, the surface of the river around the tug suddenly burst into flames, enveloping the tug and barge in a sea of fire, with flames rising to a height far above the deck of the tug and completely shutting off the view of those on board in every direction. The tug caught fire and portions of it, including the entire wheelhouse, were destroyed.

Two men lost their lives. Their ~~widows~~, together with at least one of the crew who suffered burns in the fire, have claims for damages against the American Dredging Company, owner of the tug. The matter comes before the Court upon a petition for exoneration from or limitation of liability filed by the Dredging Company.

In proceedings of this nature, the burden of proof is upon the petitioner. If he can show that the disaster was due to no fault of his and no fault on the part of the ship or its crew, he is entitled to exoneration. If he fails to meet this burden or if it appears affirmatively that there was negligence, causing or contributing to the loss, on the part of the master or crew, the limitation phase comes under consideration, and here, fault having been proved, or presupposed from the petitioner's having asked for limitation, the petitioner's burden is to show that the fault was without his privity or knowledge.

[fol. 325]. The cause of the fire was the ignition of highly inflammable vapor lying above an extensive accumulation of some petroleum product spread over the surface of the river, which was touched off by an open flame kerosene lantern carried on the deck of the scow at its rear port corner.

The lantern was not more than three feet above the water instead of eight feet as required by Section 80.16, subsection (h)*, of the Coast Guard Regulations, and there is evidence, consisting of expert opinion, that the vapor would not have been ignited if the lantern had been carried at a height of eight feet. However, that fact being an element of liability in this case, the claimants were not bound to prove it, but the petitioner had the burden of disproving it, and has failed to do so.

The petitioner contends that section (h) does not cover the case of a barge or scow towed alongside, as was the one which the Herron was towing, but I think that it does. Subsection (e) also deals with alongside tows but expressly applies only to such barges as have deck houses or which

* That section prescribes a white light at each end of the barge or scow, not less than eight feet above the surface of the water.

are carrying cargo piled so high as to obscure the side lights of the tug. In such case the barges must carry on their outward sides red or green lights corresponding to the light of the tug obscured by the tow, but need not carry any white light.

Subsection (h) applies to scows "not otherwise provided for". Alongside tows without obstructing structures or cargo on them are not provided for in section (e) or anywhere else. The mud scow involved in this case had nothing on it except its low-lying cargo of mud, hence, subsection (e) did not apply to it and subsection (h) did.*

[fol. 326] However, I am of the opinion that the violation of the Coast Guard regulation in respect of the height at which the lantern was carried does not constitute negligence *per se*, nor is it evidence of negligence. "A statute or ordinance may be construed as intended to give protection against a particular form of harm to a particular interest. If so, the actor cannot be liable to another for a violation of the enactment unless the harm which the violation causes is that from which it was the purpose of the enactment to protect the other." Restatement, Negligence, Section 286 h, page 756. "... if none of the consequences which the statute or ordinance was intended to guard against has ensued from its violation, such violation does not amount to negligence, even though some other injurious consequence has resulted; but in such case the liability, if any, must rest solely on common-law negligence." C.J.S., Negligence, Section 19, page 423.

* I cannot accept the petitioner's interpretation of the regulation, which if carried to its conclusion, would mean that a low-lying barge would not have to carry any light at all. Nor does the testimony of the Coast Guard Chief of Marine Safety for the district support the petitioner's view. There was no evidence of recognition by the Coast Guard of, or its acquiescence in, any practice relating to lights on barges, the fact being that the Coast Guard never made any attempt to enforce any of the regulations relating to lights and imposed no penalties until after a collision or a violation had been reported. The only thing which could possibly be taken as an interpretation by the Coast Guard was the witness's advice to some tugboat owners that subsection (h) applied to barges towed alongside and required two white lights. There was nothing said about the height at which the lights were to be carried.

It seems to me to be beyond all question that the Coast Guard regulation had to do solely with navigation and was intended for the prevention of collisions, and for no other purpose. In the present case there was no collision and no fault of navigation. True, the origin of the fire can be traced to the violation of the regulation, but the question is not causation but whether the violation of the regulation, of itself, imposes liability. There seems to be no disagreement among authorities that it does not.

The same considerations apply to unseaworthiness. Whether the violation of the regulation be called negligence or be said to make the flotilla unseaworthy is merely a question of words. In either case the liability stems exclusively from the violation of a regulation designed for a specific limited purpose and in either case the injury was of a kind not contemplated or intended to be guarded against by the regulation.

This brings us to the question whether, apart from any question of failure to observe a regulation, there was common-law negligence or unseaworthiness under the general maritime law. The lanterns carried were open flame kerosene lights of a proper and suitable type. It is true that the Schuylkill River has on its banks several refineries and facilities for oil storage and for loading and unloading petroleum products, but there is no evidence that the river at this point is, or ever has been, considered a danger area, so that it would be negligent for a ship to carry open flame lanterns at a height of three feet above the water, and I find that there was no negligence in doing so. It should be noted that not only are open lights carried, but internal combustion as well as steam engines are used, vessels and tugs have galleys, men smoke aboard the boats and, in addition, many small boats with open lights ply up and down the river. Beside this, the Penrose Avenue bridge with a constant stream of automobiles and pedestrians [fol. 327] passing over it spans the river at a point very near that of the accident.

Although I have not predicated liability upon it, it does appear as a fact that there was a violation of a regulation pertaining to lights, and I think that, inasmuch as the case may be appealed, the claimants are entitled to a finding as

to the knowledge and privity on the part of the petitioner. Upon this issue, like the other issues, the burden is upon the petitioner to disprove, rather than upon the claimants to prove. The petitioner called one of its captains who was in charge of the tug part of the time and who testified that there was a supply of eight-foot steel rods with lantern arms on board. He, like Captain Taylor, never used them when towing a single barge alongside. In view of the length of time during which the tug had been operating, and the number of trips up and down the river it must have made, it is not improbable that the petitioner was aware of the fact that the poles were not used. The petitioner was not an absentee owner but was in the towing business conducting it actively and daily on the Schuylkill River and in the port of Philadelphia. However, still bearing in mind the petitioner's burden, the significant thing is that no officer or employee of the petitioner appeared who denied such knowledge or the opportunity to obtain it. I, therefore, find that the petitioner had knowledge of the statutory violation and was privy to it.

The questions of Captain Taylor's competency and whether or not his conduct during the emergency constituted negligence contributing to the injury remain to be considered.

In critically appraising Captain Taylor's conduct, one should remember that one is attempting to judge a man instantaneously and without warning plunged into a situation of danger of a kind almost unique in peacetime navigation. This was not the case of a fire breaking out on board—even a swiftly spreading fire. Proceeding along a quiet river, the crew of this tug suddenly, probably in less than a second, found themselves practically in the heart of a furnace. The entire episode, from the first burst of fire until the flames died down to patches on the surface of the river covered in time not much more than five minutes.*

* Norcross's testimony does not, as the claimants contend, establish the fact that it was a matter of only a minute or so. Norcross's estimate began with the time when his attention was drawn to a glow in the sky, but there is nothing to show that the glow would not have been seen by him before that, had he been looking in that direction.

[fol. 328] At the ~~time~~ when the fire began, Captain Taylor was not in the pilot house, having gone to the galley to get a cup of coffee, leaving the wheel in charge of one of the deckhands. The claimants contend that this was negligent, inasmuch as a number of tankers were loading or discharging at the plant of the Gulf Company, showing red lights, indicating that they were handling inflammable or explosive cargo. I do not see how that fact can make the part of the river on which the tug was navigating a "danger area", as the claimants contend. At the time the captain left the bridge, the nearest of the tankers was more than 3400 feet away from the tug, or, in time, something between five and ten minutes. He could have got back to the pilot house in a matter of seconds, and there is no evidence that he was in the galley more than a very few minutes. I cannot see that there was the slightest reason to anticipate any danger from the ocean-going tankers at the Gulf spillways.

Nor can I find negligence in Captain Taylor's maneuvering of the tug after the fire started. What he did was to order the engine stopped, then reversed, and finally, when it seemed to him (as well as to everyone else on board) that the tug was doomed, stop again, with the idea in mind that it would make it safer for the men to jump off from the stern. I do not agree that stopping and backing was wrong. The captain had no idea how great an area of the river was on fire or how far he would have to drive through the flames if he went straight ahead, and it appeared to him that the fire was not quite as solid astern as it was ahead. I cannot accept the theory of the claimant's expert that this slow-moving tug and barge, if steered straight ahead, would have created a bow wave sufficient to more or less insulate it from the burning surface of the water. Besides, the captain knew that there was nothing directly behind him, and he was unable to see what was ahead of him, so that if he drove ahead there was always the possibility of running his flaming tug into another vessel or a pier or some part of the Gulf Refinery's shore structures. The final stop may have been a mistake but, right or wrong, it was an exercise of judgment in an unprecedented situation and I cannot find negligence in connection with it.

The next point raised by the claimant is that it was negligent to fail to make use of the hose or other fire-fighting apparatus. Closely related to this is the point that the failure to do so was attributable to the fact that no fire drills had ever been held.

The purpose of fire drills is to condition the master and crew to react automatically and immediately to a situation of emergency so that when a fire breaks out the hose and equipment can be put into use without delay. Unquestionably, Captain Taylor was negligent in failing to hold periodic fire drills and it could properly be said that this rendered the ship unseaworthy. Certainly, that was an omission which cannot be excused upon the grounds of the sudden emergency with which the captain was faced. [fol. 329] However, I am convinced that his negligence and the tug's unseaworthiness, due to the crew's lack of training in this particular, could not have had anything to do with the loss, for the reason that there never was the slightest chance of making any effective use of the equipment.

Of course, the bursting into flame of the surface of the water can be properly described as a fire, but it came closer to being an explosion than any ordinary fire. There was literally nothing for the men to do but run to the engineroom and close the hatches. The heat outside must have been humanly insupportable. The testimony is that at ship's side the temperature was 1800 to 3800 degrees Fahrenheit. None of the men were able to stay on the deck much over half a minute. Captain Taylor testified "Well, it was just like a furnace. You couldn't stand out on deck that long to find out how hot it was. It was just like a large blowtorch; it seemed like to me." Bugoski, the oiler, who was in the engineroom looking out a port-hole, said "I felt a hot flash hit me right in the face", and Harrington, a deckhand, described the flames as so high that he could not see the top of them. At one time when the men were in the engineroom, Captain Taylor attempted to get onto the barge but was driven back "as soon as I opened the port door, and the flames shot right in my face . . . I had to close the door right away." This, it may be noted, was on the port side, partially, at least, pro-

ected by the barge. I conclude that, even with a perfectly trained crew, no one could have remained on the deck of the tug, or even on the barge, long enough to have used the fire hose with any appreciable effect before it went out of commission. Obviously, if this is so, the lack of fire drills was not a factor in the loss.

I cannot fix blame upon the captain for failing to rescue Worrell or Mylan. Mylan was in the engine room with him. The place was filled with stifling, oily smoke and it was impossible for one man to identify another. All that could be seen were dim figures. As a matter of fact, the evidence indicates that Mylan did not remain in the engine room but jumped overboard with the others when the tug was abandoned. It was plainly impossible to get to Worrell in the wheelhouse.

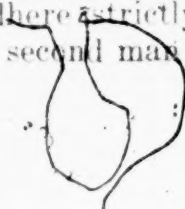
There are a number of other things which it is argued that the captain should have done. I do not think it is necessary to go into detail, and I shall only say that I do not find any negligence in any of them on the part of the captain or, at least, any negligence which caused or contributed to the loss.

There is no dispute about the principle of law, on which another branch of the claimant's case is grounded, namely, [fol. 330] that the owners of a vessel, as part of their warranty of seaworthiness, are bound to provide a competent master for the vessel. "Applied to a seaman, such a warranty is, not that the seaman is competent to meet all contingencies; but that he is equal in disposition and seamanship to the ordinary men in the calling", *Keen v. Overseas Tankship Corp.*, 194 F. 2d 515, 518. This statement of the law, of course, includes masters of vessels as well as ordinary seamen, the only difference being that the master's abilities must measure up to those of the ordinary master of a similar vessel, in this case the ordinary tugboat captain.

The claimants contend not only that the petitioner has failed to meet the burden of showing Captain Taylor's competency but the evidence clearly discloses his incompetency. Although only 26 years old at the time of the accident, Captain Taylor had five years experience as a tugboat captain in the port of Philadelphia. From the time he was

16 years old he had been working on and about ships of various kinds. This, I think, is *prima facie* evidence that he was a competent officer and is sufficient to meet the petitioner's burden. The claimants produced no evidence of anything in Captain Taylor's past record unfavorable to him or his seamanship. They rely entirely upon their position that his conduct immediately before and during the emergency sufficiently proves that he was an incompetent ship's officer, and they invoke the principle of *Boudoin v. Lykes Brothers Steamship Co., Inc.*, 348 U.S. 336. That was a far-reaching decision, and it follows from it that if the evidence is strong enough, an officer can be found, from his handling of a single situation, to have been incompetent, and the Court can make a finding that his employment was a breach of the warranty of seaworthiness, without proof of anything else—either of his record as a seaman, his background, his training or his personal qualities.

The precise standard of seamanship required as laid down in the decisions should be carefully borne in mind. In *In re Pacific Mail S.S. Co.*, 130 F. 76, 82, quoting the opinion in *In re Meyer*, 74 F. 881, 885, the Court noted that the crew must be adequate and competent "with reference to all the exigencies of the intended route"; not merely competent for the ordinary duties of an uneventful voyage, but for any exigency that is likely to happen, Is it evidence from which it can be found that the master of a tug was incompetent and unfit or not equal in disposition to the ordinary man of his calling that he failed to act with heroism or with complete efficiency in the kind of emergency which occurred on the tug *Herron*? "All the exigencies of the intended route" and "any exigency that is likely to happen" do not quite cover what Captain Taylor had to meet. Certainly he was frightened and confused. So was everybody on the tug and so, I venture to say, would have been anyone, except a man of courage and resourcefulness far above and beyond that of an officer "equal [fol. 331] in disposition and seamanship to the ordinary men in the calling", which is all that the law requires. Certainly Captain Taylor did not adhere strictly to the traditions of the sea when he was the second man to jump



overboard. However, it is much easier to apply the logic of calm afterthought than to place one's self in the position of men suddenly confronted with the prospect of imminent death in a flaming tugboat.

In the light of all these considerations, I cannot find that Captain Taylor's conduct in the few minutes involved in the disaster can form any basis for the conclusion that he was less competent than the ordinary man in the calling of a tugboat captain.

From what has been said, it follows that the petitioner is entitled to exoneration.

Decree accordingly.

[fol. 332] IN THE UNITED STATES DISTRICT COURT FOR THE
EASTERN DISTRICT OF PENNSYLVANIA
No. 137 of 1953—IN ADMIRALTY

In the Matter of the Petition of American Dredging Company, as Owner of the Tug "Arthur N. Herron" for Exoneration from or Limitation of Liability

FINAL DECREE—February 6, 1956

A petition having been filed in this Court by American Dredging Company as owner of the tug "Arthur N. Herron", praying for exoneration from or limitation of liability by reason of loss, damage, death or injury arising out of a fire which occurred on November 18, 1952, on the Delaware River, Philadelphia;

And claims having been filed and the case having come on for trial upon pleadings and proof and the arguments of counsel and the Court having filed its decision January 19, 1956, that the fire and loss were not caused by any design or neglect of the Petitioner;

IT IS HEREBY ORDERED AND DECREED, this 6th day of February, 1956, that the findings of fact and conclusions of law as incorporated in the Opinion of this Court filed January 19, 1956, shall stand as the findings and conclusions of the Court;

That the Petitioner is forever exonerated and discharged from all liability for all loss, damage, destruction, death or injury arising from or growing out of the said fire.

/s/ W. H. Kirkpatrick, D.J.

We do not object to the form of this Decree.

/s/ Harold B. Lipsius, Harold B. Lipsius, Attorney for Francis J. Harrington.

Freedman, Landy and Lorry, By /s/ Abraham E. Freedman, Attorneys for Estates of Milan and Worrell.

[fol. 333] • UNITED STATES COURT OF APPEALS
FOR THE THIRD CIRCUIT

No. 11,869.

IN THE MATTER OF THE PETITION OF AMERICAN DREDGING COMPANY, AS OWNER OF THE TUG "ARTHUR N. HERRON", FOR EXONERATION FROM OR LIMITATION OF LIABILITY.

WILLIAM J. KERNAN, ADMINISTRATOR OF THE ESTATE OF ARTHUR E. MILAN, AND JOHN J. MEEHAN, ADMINISTRATOR OF THE ESTATE OF DONALD H. WORRELL, Appellants.

APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE
EASTERN DISTRICT OF PENNSYLVANIA

Argued June 4, 1956

Before BIGGS, *Chief Judge*, and MARIS and KALODNER,
Circuit Judges.

OPINION OF THE COURT—Filed July 5, 1956

PER CURIAM:

This is an appeal by two claimants from a final decree of the District Court for the Eastern District of Pennsylvania exonerating the American Dredging Company, as [fol. 334] owner of the tug "Arthur N. Herron", from all liability for loss, damage, destruction, death or injury arising from or growing out of a fire which occurred on November 18, 1952 on the Schuylkill River in the city of Philadelphia. On the evening of that day the tug was going down the river with a tow consisting of a loaded mud scow made up on her port side. As she passed the refinery of the Gulf Oil Company, the men on board her heard a rumbling sound and, without other warning, the surface of the river around the tug suddenly burst into flames, enveloping the tug and barge in a sea of fire, with flames rising to a height far above the deck of the tug and completely shutting off the view of those on board in every direction. The district court found that the cause of the fire was the ignition of highly inflammable vapor lying above an extensive accumulation of some petroleum product spread over the surface of the river which was touched off by an open flame kerosene lantern carried on the deck of the scow at its rear port corner. Two members of the crew of the tug lost their lives in the disaster. The administrators of these men and a surviving crew member who suffered burns made claims for damages against the American Dredging Company as owner of the tug. That company thereupon filed the petition for exoneration from liability which is the basis for the present proceeding.

The district court properly held that in order to entitle it to exoneration the burden of proof was upon the petitioner to show that the disaster was not due to its fault or the fault of the master or crew or the unseaworthiness of the vessel. The claimants asserted that the petitioner was negligent in maintaining the open flame lantern on the deck of the scow at less than a safe height above the water in a potentially dangerous area and in failing to provide a safer lamp and that the vessel was thereby rendered unseaworthy. They also contended that the failure of the captain of the tug to obey the Coast Guard regulation [fol. 335] which required the scow to carry its lights at each

end not less than 8 feet above the surface of the water was negligence *per se* and rendered the vessel unseaworthy. Finally they urged that the tug was unseaworthy because the petitioner had not provided her with a master who was equal in disposition and seamanship to ordinary men of the calling, his conduct having in fact contributed to the loss of life.

In a carefully reasoned opinion Chief Judge Kirkpatrick, who presided at the hearing in the district court, discussed all of these contentions in the light of the evidence, made findings of fact and concluded that the petitioner had sustained its burden of establishing that both it and the master and crew of the tug were free from negligence and that the tug and tow were not unseaworthy. He accordingly granted the petition for exoneration. F. Supp.

Our consideration of the evidence satisfies us that his fact findings were not clearly erroneous. We think that his conclusions of law were correct, for the reasons sufficiently stated in his opinion.

The decree of the district court will accordingly be affirmed.

Biggs, *Chief Judge*, dissenting.

The petitioner, American Dredging Company, which seeks exoneration from liability, by its tow boat "Herron" towed a scow with two open-flame kerosene lamps on its deck about two and a half feet above the water into an area near which seven tankers were moored in the Schuylkill River, engaged in loading or discharging liquid petroleum. A conflagration instantly ensued, and two members of the "Herron's" crew lost their lives and a third was injured severely. The majority of this court hold that the barge so equipped was seaworthy.

[fol. 336] Petroleum products frequently are inflammable and on occasion have been ignited by open flame. For this reason it would seem that the equipment of the barge was inadequate. In fact I do not see how a plainer demonstration of unseaworthy appliances could be made. For this reason I dissent.

*Clerk of the United States Court of Appeals
for the Third Circuit.*

[fol. 337] UNITED STATES COURT OF APPEALS
FOR THE THIRD CIRCUIT

No. 11,869

In the Matter of the Petition of AMERICAN DREDGING COMPANY, as Owner of the Tag "Arthur N. Herron", for Exoneration from or Limitation of Liability.

William J. Kernan, Administrator of the Estate of Arthur E. Milan, and John J. Meehan, Administrator of the Estate of Donald H. Worrell,

Appellants

Present: BIGGS, Chief Judge, and MARIS and KALODNER, Circuit Judges.

JUDGMENT—July 5, 1956

This cause came on to be heard on the record from the United States District Court for the Eastern District of Pennsylvania and was argued by counsel.

On consideration whereof, it is now here ordered and adjudged by this Court that the decree of the said District Court in this case be, and the same is hereby affirmed with costs.

July 5, 1956

Ida O. Creskoff, Clerk

[fol. 338] • UNITED STATES COURT OF APPEALS
FOR THE THIRD CIRCUIT

Before BIGGS, *Chief Judge*, and MARIS, GOODRICH, Mc-
LAUGHLIN, KALODNER, STALEY and HASTIE, *Circuit*
Judges.

PER CURIAM OPINION OF THE COURT DENYING REHEARING
—Filed August 13, 1956

PER CURIAM:

A petition for rehearing has been filed by the appel-
lants in this case. Since the judges who concurred in the
judgment entered on July 5, 1956 do not desire rehearing
and a majority of the circuit judges of the circuit do not
think it appropriate to order rehearing before the court
in banc, the petition for rehearing will be denied.

[fol. 338a] BIGGS, *Chief Judge*, and McLAUGHLIN and
STALEY, *Circuit Judges*, think that rehearing before the
court *in banc* should be ordered.

A true Copy:

Teste:

*Clerk of the United States Court of Appeals
for the Third Circuit.*

[fol. 339] CLERK'S CERTIFICATE TO FOREGOING TRANSCRIPT
(omitted in printing).

✓[fol. 340] SUPREME COURT OF THE UNITED STATES

No. 557, October Term, 1956

William J. Kernan Administrator of the Estate of Arthur
E. Milan, Deceased, et al., Petitioners,

v.

American Dredging Company, etc.

ORDER ALLOWING CERTIORARI—Filed January 14, 1957

The petition herein for a writ of certiorari to the United States Circuit Court of Appeals for the Third Circuit is granted, and case transferred to the summary calendar.

And it is further ordered that the duly certified copy of the transcript of the proceedings below which accompanied the petition shall be treated as though filed in response to such writ.

